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An Address.[1]

By H. J. WILKINSON, B.A., M.D., Ch.M. (Sydney),
Dean of the Faculty of Medicine, University of Queensland, Brisbane.

WE are assembled here this evening for the inauguration of the Faculty of Medicine in the University of Queensland, and I am fully conscious of the honour that has been bestowed upon me in that, as the first Dean of the Faculty of Medicine, I am privileged to give this inaugural address. I am also conscious of the responsibility which has devolved upon me. It was not easy to leave a professorship in a well-established school, and to leave the University of Adelaide, with which I had always been proud to be associated, to make a fresh start where everything has to be built, as it were, from the ground up; but I realized that the work of assisting in building up the new medical school in Queensland afforded a rare opportunity and one that could not be lightly set aside.

It was easier to decide what to do when I visited Brisbane on the invitation of the Senate of the University of Queensland and saw what arrangements were being made, and the fine hospital which had been established by the Government of Queensland. This hospital, I thought, would provide rare facilities as a teaching hospital. Nowhere else in the Commonwealth is there to be found a teaching hospital in which all institutions necessary for the education of medical students are collected together in one organization. Usually they are scattered about in different places in a large city and much time is wasted by the students in moving about from one to the other.

A further source of encouragement was the fact that the Queensland Government intended to erect

[1] Delivered at the inauguration of the Faculty of Medicine in the University of Queensland on October 1, 1936.

the medical school in the closest possible proximity to the hospital. This hospital and medical school, when completed, will make a medical unit of which any community ought to be justly proud.

I have since found a further source of gratification in the fact that the Brisbane and South Coast Hospitals Board has promised the closest cooperation and is going to do all it can to assist the Faculty in establishing the school.

I feel today we are making history, for I am confident that the establishment of the Faculty of Medicine in Queensland is going to mean much more than mere provision of an institution for the education of medical students. The influence of the school will, I anticipate, be felt throughout the whole of the medical profession and all the medical services of this State, and will provide an immense power for good in the life and welfare of its citizens.

It is fifty years since a medical school was founded in Australia, the last being that in Adelaide, which was opened in 1885. Only last year we celebrated the jubilee of the Adelaide school. The Melbourne school was the first to be established in Australia. This was opened in 1863. The Sydney school was opened twenty years later, in 1883.

Each of these schools was commenced under extremely primitive conditions, but, as time went on, private and government endowments made it possible for them to be suitably housed and adequately equipped. So much advancement has been made in medical science and education during the last fifty years that it was out of the question to try to establish a medical school here in Brisbane under the same primitive conditions as those under which the other Australian schools were established.

It should be a source of great satisfaction both to the people of Queensland in general and to the medical profession in particular, that once the Government decided to establish this school, it was determined that the students enrolling here would eventually be given facilities comparable with those available in other Australian medical schools.

The people of Queensland evidently have confidence in the scheme, because the enrolments up to the present have been highly satisfactory. We estimate that by the time the first students graduate we shall have an average of at least 35 to 40 students in each year of the course, making a total of over 200 medical students altogether. This will make the Queensland school, in point of number of students, the third in the Commonwealth. At present the number of students in Sydney is 632, in Melbourne 609, in Adelaide 120.

But the number of students is no indication of the status of the school. Although Melbourne is only just behind Sydney in regard to number of students, Sydney is far ahead of Melbourne in certain other respects. This is due principally to the munificent endowments which have come to the Sydney school, including the quarter of a million pounds given during his life-time by the late Mr. Bosch. The total value in present-day currency of the buildings and equipment in the Sydney medical school cannot be far off half a million pounds, and it has full-time professors in all the major departments actively engaged in teaching and research. Besides this most of the chairs are privately endowed.

For its size, the Adelaide school is also very well housed and equipped, and its three buildings have been almost entirely founded by private endowments. The Elder School of Anatomy was founded by the benefactions of Sir Thomas Elder, the Darling Building by the Darling family, and the Clinical School, which is now in course of erection in the grounds of the Adelaide Hospital, was made possible by private endowments, subsidized pound for pound by the Government on the occasion of the jubilee of the school. The total cost of buildings and equipment in Adelaide would amount, I should estimate, to somewhere in the region of about £100,000.

I mentioned above that since the last medical school was founded in Australia fifty years ago, enormous advances have been made in medical science. In fact we could hardly say that medicine fifty years ago was a science at all; it was just emerging from the age of empiricism. Most of the great advances in medical and surgical practice, and in public health and preventive medicine, have been introduced in the last fifty years. The greatest benefits that medical science has given to mankind have therefore come within the life-time of men still living.

Historical Review.

A full appreciation of what modern medical science offers to humanity can be gained only by a knowledge of what obtained in the past. As Osler says:

> Medicine arose out of the primary sympathy of man with man; out of the desire to help those in sorrow, need and sickness . . . . There is no society we know of so primitive but that there is some evidence of the existence of the healing art which grew with its growth and became a part of the fibre of its organisation.

Early medicine was based on experience, but was intimately linked up with priestcraft and superstition. Even when medicine was in this primitive condition, the history of the great early cvilizations of Egypt and Mesopotamia contains records of physicians, surgeons and specialists who subscribed to a code of ethics that passed down into the famous Hippocratic oath.

The earliest scientific document known is the Edwin Smith papyrus, dating from about 1600 B.C., in which there are described forty-eight cases in clinical surgery. Each case is treated logically under the headings of clinical history, signs and symptoms, diagnosis, prognosis and treatment. In another part of the papyrus the author makes the statement, with a clarity unrivalled until the eighteenth century, that the control of the lower limbs is due to the activity of a region localized in the brain. It may be mentioned in passing that this is the first time the word signifying "brain" appears in literature.

Another peak in medical history is found in the time of the ancient Greeks. When the Greek Arians migrated into the Balkan Peninsula they brought with them the cult of Æsculapius and eventually founded throughout Greece at least three or four hundred temple-sanatoria devoted to the treatment of the sick and the promotion of health. The treatment of the Æsclepiads was mostly empirical and was mixed up with a great deal of magic and superstition; but by the sixth century B.C. there had arisen a spirit of inquiry and an attempt to break away from old traditions. There is evidence that the early nature-philosophers of this time practised elaborate dissections of the human body. But the pinnacle of Greek medicine was reached a century or two later. The most famous of the Greek physicians, who helped to bring Greek medicine to the high state of development it reached in early times, was Hippocrates (460-380 B.C.). Hippocrates did more than any of his predecessors to infuse Greek medicine with the new spirit. He emphasized the necessity for trying to establish natural causal relations; he believed that there were natural causes for all diseased conditions, and that if they could only be discovered, treatment could be adjusted accordingly. But of the special features of the Hippocratic writings that have influenced the evolution of the science and art of medicine, the first, as Osler says, undoubtedly is the note of humanity.

In laying down the qualifications for the study of medicine, Hippocrates says that whoever is to acquire a complete knowledge of medicine must have a natural talent and must bring to his task a love of labour and perseverance. He also gives directions for the conduct of life and for the relations which the physicians should have with the public; these have formed a code of ethics which represents the high-water mark of professional morality and has affected professional practice right up to the present day. Gomperz says that the Hippocratic oath is a "monument of the highest rank in the history of civilization". For twenty-five centuries it has been the *credo* of the profession, and in many universities it is still the formula with which men are admitted to the profession. Much of the oath is now inappropriate, but the essence is contained in the following lines:

> I will follow the practice which according to my ability and judgement I consider for the benefit of my patients and abstain from whatever is deleterious and mischievous.
>
> I will give no deadly medicine to anyone if asked nor suggest any such counsel.
>
> With purity and with holiness, I will pass my life and practise my art.
>
> Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption.

Then comes the most familiar and famous part of the oath:

> Whatever in connexion with my professional practice, or not in connexion with it, I see or hear in the life of men which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret.

Any profession that lives up to such high ideals and such a standard of ethics deserves and will always demand the highest respect from any community in which it exists. Whether the medical profession has always lived up to these ideals is not for me to say, but I should like to assure the people of Queensland on the occasion of the inauguration of this school that it will be our highest endeavour to bring these ideals prominently before our students so that, before they are set free to practice, they will be thoroughly well acquainted with the traditions they have to live up to and will know what the community expects of them as practitioners of medicine.

The experimental method of Hippocratic medicine was employed among the Greeks for centuries after the death of Hippocrates, in fact right up to Roman times. Among those who immediately succeeded Hippocrates must be mentioned Aristotle (384-322 B.C.), whose thought has stamped itself on the whole subsequent course of the biological and medical sciences, and indeed of all science.

The social upheaval which followed the breaking up of the Roman Empire, however, checked the growth of scientific medicine, and for a thousand years and more medical practice again became very primitive. During the renaissance, in the sixteenth century, the Hippocratic writings were recovered and studied, the old spirit was revived and slowly the foundations of modern medicine were laid. Never since the days of the ancient Greeks did medicine reach again the high pinnacle of scientific endeavour which then obtained, until quite recent times.

Even after the renaissance, when the spirit of inquiry was again abroad and inspiring the great minds in the field of medicine, progress towards the scientifically accurate understanding of the causation of disease and the maintenance of health was very slow. Much useful knowledge was obtained; but it was not until the microscope was invented and used as an instrument of scientific investigation, and until there was a greater knowledge of chemistry and physics, that any real advance was made towards scientific medicine. Modern advances in chemistry and physics appear to promise us unlimited scope for investigation and inquiry, and it appears that in time the laws of life and health will be known as accurately as the fundamental laws of physics and chemistry, and the cause of all human ailments will be known and under control.

Responsibility of the Medical Profession.

During the last hundred years we have entered a new era of material and intellectual advancement which to many presages the dawn of a golden age. But material and intellectual advancement alone is insufficient. There is greater need than ever before to attend to those matters of the spirit which develop in us a love of humanity; and medical men, perhaps more than any others in the community, can, by their example and precept, help to raise humanity to a higher level of spirituality and by

so doing provide firmer foundations without which the present civilization is likely to founder.

Some of you might think that I am putting too much responsibility on the medical profession. But I have been induced to dilate on this matter because there is getting abroad of late a feeling which, if not checked, may undermine the confidence of the community in the medical profession. There is a suspicion, which has even found expression in the daily Press, that medical men have fallen from grace. As a generalization I should like at once emphatically to deny such an assertion. There is not one of you who could not name medical men whose whole life is being devoted unselfishly to their profession and who, as far as is humanly possible, are living up to the high traditions of a noble calling. If there are a few who are not, let them mend their ways, for there is no greater critic than an enlightened democracy. But so long as the medical profession lives up to its ideals, it will still command the love and respect of all members of the community.

The Aim of the New School.

It might be asked what has all this to do with the establishment of our new school, and this brings me to the consideration of the aims which we have set ourselves in this Faculty.

In creating something new it is essential to have some sort of well-defined and clearly expressed aim, and it is well to attempt to crystallize it into as simple a formula as possible. I have attempted to express our main purpose in the following words: to provide an institution for the education of efficient general medical practitioners, who will uphold the highest traditions of the profession.

I have felt for a long time that it is most desirable that a practitioner of medicine should be able to lay claim not only to an adequate knowledge of his art and skill in his craft, but also to a certain amount of culture and refinement; he should possess to a high degree a love of his art and a keen sense of responsibility to his patients and to the community. In order to achieve this aim we must provide a suitable environment for his training. One cannot cultivate healthy plants in barren soil, and we do not want too many exotic hot-house plants. We want good, strong, healthy plants which can stand up to wide variations of conditions. In other words, we want men of sound common sense and initiative, who have been subjected to a rigorous discipline of painstaking endeavour and have cultivated those qualities of personality which we associate with men of courage, resource and achievement. To achieve this aim, I say, we must provide a suitable environment, not only material and intellectual, but spiritual.

The Student's Environment.

From the point of view of the medical student, the most important elements in his environment are his teachers, the library and the laboratories. You might ask what has been done and what is going to be done here in this connexion. First there are the teachers. There is very little need for me to say that a great deal of the success of the school will depend upon the teaching staff. Although an institution certainly needs adequate buildings and equipment to provide the material instruments necessary for progress, it is not on these things alone that its success and development depend, but upon "a vitalizing element", as Osler puts it, "embodied in the men who work within its walls and in the ideals which they cherish and teach".

Up to the present, the members of the staff include the professors and lecturers in the departments of anatomy and physiology. Within the next year or so we expect to have professors of pathology and obstetrics and the lecturers in these departments, as well as the various lecturers and tutors in medicine, surgery, and other subjects taught in the clinical years.

It has occurred to me that it is a very remarkable thing that among the foundation members of the staff there is not one Scot; I think this must be unique. I am a great admirer of the Scots and have often regretted I could not claim a little Scotch blood in my veins; but there is a little drop of Irish, and if you know anything about the Irish, you know that a dash of Irish is often just as useful as a drop of Scotch.

Let me say something of the appointments that have already been made. The professor of physiology, Professor Lee, has had an excellent academic career, both as a science student here in Queensland and as a medical student in the University of Sydney, and since graduation he has worked for two years in London with one of our foremost British physiologists. I knew him as a student in Sydney when I was on the staff of the medical school there; and from what I saw of him then and since I have been associated with him here, I feel sure he will live up to what is expected of him. Besides the professor, the staff of the physiology department has Dr. Booth, from Belfast, and Mr. Hines, who has been transferred from the chemistry department. From what I have seen of these men I am able to say with confidence that Professor Lee commands a good team and one which I feel sure will guarantee the success of his department.

In the anatomy department, besides the professor, we have Dr. Meyers, whose labours on behalf of anatomy are already well known to some of you, for he has been conducting classes in anatomy for students of dentistry here in Brisbane for the past ten years. This dental anatomy school may be regarded as the seed from which this medical school has emerged.

With regard to the laboratories, tomorrow evening you will have the opportunity of visiting the physiology school and will be able to see for yourselves something of the provision which has been made for our students. The physiology department has been particularly fortunate in having a foundation grant which includes £5,000 subscribed by the

friends of the late Sir William MacGregor. On this account the school has been called the Sir William MacGregor School of Physiology. In addition to this, the school has temporary but comfortable accommodation in Alice Street, in a building which has been put at the disposal of the University for a nominal rental by the Pharmaceutical Society of Queensland. This school is well founded and well furnished with the equipment necessary to provide adequate and efficient courses in the subjects of physiology and biochemistry, and also to enable the staff to make an early start in physiological and biochemical research.

The anatomy school is accommodated along with the dental school in the old Masonic Temple, also in Alice Street. This building was given to the University by the Freemasons of Queensland to assist it in the establishment of this Faculty. Here at present we have provision for gross dissection only. Needless to say, the anatomy department can make very little, if any, progress under these conditions, as gross dissection forms but a small part of the total activities of an anatomy school. But I hope that by the beginning of the new year the equipment necessary for the third year classes and for the building up of the department will have arrived. Meanwhile, with the help of the biology department, through the courtesy of Professor Goddard, we are able to provide a satisfactory second-year course. Later on, with the removal of the dental school to the new dental institute, which will be erected at an early date, more accommodation will be available, and I am hoping that we shall be able to carry on until adequate accommodation is provided elsewhere.

I fully realized when I came here, however, what accommodation was available, and was confident that, for the time being, if we were provided with the necessary equipment, we should be able to give courses quite as efficient as could be expected at the start. But I anticipate that it will not be long before all the activities of the anatomy department will be brought together under the one roof and adequate provision made for its proper development.

One thing we are attempting to do here is to bridge the gap which in the past seems to have separated pre-clinical years from the clinical, so that the students will not feel so much the transition from the academic to the clinical side of their course.

From the second term of third year onwards—that is, at the earliest opportunity—the students will be brought in contact with the practical application of anatomy and physiology. With regard to anatomy, emphasis is being laid on the anatomy of the living as distinct from the anatomy of the cadaver. In this respect we are fortunate in having in the department of anatomy the services of a practising surgeon especially qualified to assist in emphasizing the practical application of anatomy to surgery. Next year, applications will be called for from other surgeons for the positions of honorary demonstrators in anatomy, whose special function will be to take charge of special courses. The student will thus at an early stage of his course be brought into contact with men in the profession who can assist in impressing him with the practical importance of the facts of anatomy and in awakening a lively interest in anatomy as a handmaid to surgery.

The course in an anatomy school includes, besides gross anatomy, embryology, histology and neurology; in addition, the anatomy students are encouraged to make investigations for themselves, so that they will have an opportunity to cultivate an inquiring attitude of mind.

Importance of Original Investigations.

Lewis Wood, of Johns Hopkins University, says:

> The spirit of questioning should be so instilled in the student that throughout his medical work he will constantly remain the real student. Good teaching now demands more than the presentation of the subject from all its angles and with all its various backgrounds: it really demands an opportunity for the student to see at first-hand the methods by which data are assembled, the technique employed, and most of all, the processes of control in investigation.

It is only thus that our subject of anatomy can become of value as a scientific discipline. The future practitioner, while he is a student, must be trained in the habits of observation, of making logical deductions, and of searching for answers to the many problems which are bound to confront him. It is only thus that he can lay the foundations of a character distinguished by qualities of resource and initiative.

Another very important department of the anatomy school is that for the carrying out of experimental investigations. There are several important problems which are demanding attention and which ought to be fruitful of important results. One in which I am particularly interested especially concerns the Queensland Government, namely, infantile paralysis. I am of the opinion that all the morphological facts and possibilities associated with this condition are not yet known and have not been fully investigated, and my researches up to the present lead me to believe that there is scope here for fruitful inquiry and experimentation.

On the occasion of this inauguration I should like to state my conviction that we should not unnecessarily delay in this school the active prosecution of original experimental investigation. Right from the beginning the school should, in addition to imparting knowledge to medical students, justify its existence by furthering research and bringing even our first students into contact with this vitalizing influence. In short, I hope it will be the glory of this school that it not only imparts knowledge in the best possible way, but contributes increasingly, as its facilities are extended, to the advancement of knowledge. We cannot claim to be a university school so long as our activities are

concerned merely with the imparting of knowledge. This applies to the department of physiology as well as to that of anatomy. I know that Professor Lee has schemes for investigating problems of peculiar interest to Queensland. Up to the present, by reason of the foundation grant and a larger full-time staff, he is in a little better position than we are in the anatomy school. This does not arouse the envy of those of us in the anatomy school, but the earnest hope that it will not be long before we are equally well equipped to perform our true functions as an investigating unit.

The Clinical School.

Next year we shall take steps towards the establishment of the pathological, bacteriological and clinical departments. Meanwhile, an early start is to be made with the erection of the clinical school alongside the hospital. It is expected that this will be ready for occupation by the time the students reach the fourth year of their course, that is, at the beginning of 1938. This building will house the departments of pathology and bacteriology, surgical anatomy and operative surgery, as well as the medical library and clinical museum and the necessary offices and work-rooms. There will also be a well-equipped lecture theatre and two smaller lecture rooms, as well as common rooms for both men and women students. The design includes two wings which will be built later on to provide for additional departments. The part now to be erected represents the central portion of this complete design.

In addition to this building, certain accommodation is being provided by the Brisbane and South Coast Hospitals Board in the hospital itself, and this, with the school alongside, will give us a clinical teaching unit which will compare creditably with those in other Australian medical schools.

The Medical Library.

Another element in the students' environment, and one of extreme importance, is the library. The literature of medicine, including historical masterpieces, medical history, biographies, current texts, periodicals, monographs and abstracts, should be a part of the essential equipment of every medical school. Through the historical masterpieces, works of medical history and biographies, we get inspiration from the past, and from current texts and periodicals we are brought in contact with the great minds of the present day and receive inspiration for our own investigations. To quote an eminent authority on medical education:

> To study phenomena of disease without books is to sail an uncharted sea, while to study books without laboratories and patients is not to go to sea at all.

We are aiming at the start to provide here a library on a scale at least equal to that of the smallest of the other Australian medical schools, and we are earnestly hoping that it will be possible to do this.

What I have said will help you to understand something of the aims and objects of a medical school, something of what has already been done, and something of what is contemplated. We have made a fairly good start, but much yet remains to be done. There are difficulties to solve, and no doubt we shall have our disappointments; but we also have hope and, judging from what I have already observed of the present members of the Faculty, we have plenty of enthusiasm and energy. This is a great source of satisfaction, but we want plenty of encouragement; so far, the medical profession here in Brisbane is displaying enthusiasm about the school, and I am sure will give us its full support. We need this, as we are looking to the profession here to supply us with our clinical teachers.

Post-Graduate Work.

So far I have spoken only concerning our work with the students; but we hope, as I said earlier this evening, that the school will make its presence felt throughout the profession. We might ask what influence the school will have on those who have already graduated and entered upon their life's work. This brings us to the question of post-graduate studies. There already exists in Queensland a post-graduate committee which has for some time attempted by annual meetings to give the men in practice an opportunity of gaining knowledge of the latest advances in medicine and surgery and of hearing addresses by prominent men and specialists in the city, as well as by men invited up here from the other States. The establishment of the school will make it possible to extend considerably this important work, and we hope eventually to be able to provide full courses of post-graduate instruction, so that our graduates can continue with their studies and investigations and thus have an opportunity of preparing themselves for the higher degrees. It is only in this way that the profession can keep up to date and that we can hope to have highly efficient specialists. Even at this early stage the departments of anatomy and physiology are making arrangements to conduct classes for graduates who intend to present themselves for the Primary Fellowship Examination of the Royal College of Surgeons of England, which is to be held at the end of next year. The fact that we have had several inquiries about such courses is sufficient evidence that the need exists for their establishment.

Need of Benefactions.

Besides encouragement from the medical profession itself, we shall need encouragement in very material directions. The universities in the other States have a wonderful record of material encouragement which has come from private individuals. Most of these universities have cause to revere the names of generous and philanthropic citizens who have put large sums of money at their disposal to enable them to put up new buildings, found chairs and lectureships, provide prizes and

scholarships, and so on. It is hard to believe that here in Queensland we have not high-minded and generous people who are in the position to make similar contributions. If such there be, there is no better time than the present for them to come forward, for there is nothing that should make a greater appeal to the imagination of those who are philanthropically inclined than the opportunity of contributing towards the establishment of an institution, such as the medical school, which is destined to mean so much to the welfare and happiness of the citizens of this State. We have a MacGregor School of Physiology, why not somebody's school of anatomy? Then there are the various chairs of anatomy, physiology, pathology and bacteriology, and obstetrics, and various lectureships, all of which can be endowed. There are also laboratories, lecture theatres, museums and the medical library, prizes and scholarships, including research and travelling scholarships—all of which are worthy objects of benefaction.

A wealthy old gentleman once said to me that he did not think much of a man who sought to gain cheap fame and immortality by giving money to public institutions. He had an idea that it was merely an expression of vanity. I soon convinced him, however, of the contrary and converted him to a different point of view, pointing out that in many cases no stipulation regarding the use of the name of the donor was made with the gift and that it was usually the grateful recipients who sought permission to use the name as some slight indication of their appreciation, and because they were convinced that the names of such men should be commemorated to serve as a source of inspiration to posterity. Should we not constantly be reminded of men like Challis, Russell, Fisher, McCaughey, Watt and Bosch in Sydney; Hughes, Elder, Barr Smith, Bonython, Waite and Murray in Adelaide; Wilson, Stewart and Ormond in Melbourne; and Hackett in Perth, all of whom have contributed so generously towards the establishment of schools, chairs and other foundations in the various Australian universities? These names represent only a few of those who are listed in the rolls of benefactors in the Australian universities, who by their generosity have earned the gratitude of a posterity of university teachers and students, and who have contributed towards the elevation of the standards of culture and the development of the material welfare and progress of Australia.

There are many people in Queensland, I am sure, who are only waiting to be convinced of the need of their encouragement, and they will come forward. There are some, however, who, I am afraid, think that if these things are necessary, it is the function of the Government to provide them. But the Government of Queensland has done a great deal and, as you know, is going to do a great deal more. Only this week we have been thrilled with the news that the Government has decided to proceed at once with the establishment of the university at St. Lucia. And such a university! Words fail me; and the presence in this assembly of our illustrious *alumnus* who is greatly responsible for it prevents me, in the interest of good taste, from giving expression to what I know is in all our minds.

The point is that no matter what the Government does there is still room for the personal example and encouragement which mean so much to the teachers and students. We certainly can honour our statesmen who have striven to establish our great seats of learning, just as Parkes and Wentworth are honoured at the Sydney University; but everything should not depend upon the Government. It needs encouragement too.

Matriculation Requirements.

There is another subject which I must mention and which is of especial interest to the teachers in our school; that is the question of matriculation. There seems to be no great degree of uniformity in the requirements of the medical schools in different parts of the world. In framing our requirements our aim has been to encourage our future students to study at school those subjects which will best fit them for entrance into the Faculty. While we have given a certain choice of subjects, we feel that a good standard of English is essential and that a student should be able to express himself in his own native tongue. I think that the writing of essays should form a prominent part of any English course. With regard to foreign languages, we have allowed a choice of senior standard French or German, but we recommend German as making it possible for medical students to gain access to the greatest volume of medical literature written outside their own tongue. Then senior standard mathematics is compulsory; also both physics and chemistry, one of which must be taken at the senior standard.

While these subjects represent the minimum requirements for entrance into the Faculty, I should like to see history taken as an extra subject—preferably a course of general world history (modified, H. G. Wells). At present no such course exists in the senior examination, but it could easily be devised. Failing such a course as this, I should recommend the course in ancient history—up to the middle ages. These six subjects provide an excellent all-round cultural background and provide a mental equipment invaluable to the future medical student. You will probably notice that Latin has ceased to be a compulsory subject. Many of us will regret this, but German will be of much greater practical use to our students and, we hope, will provide a somewhat similar discipline.

Relation to Rest of University at St. Lucia.

Since coming to Brisbane I have been repeatedly asked how the development of the medical school alongside the hospital in Herston Road will be affected by the decision to build the university at St. Lucia.

This has, of course, given me much food for thought. It is most undesirable that the medical school should be entirely divorced from the rest of the university, and in seeking a solution of the problem this must be kept in mind. From my point of view the first consideration must be the establishment of a school where the students will have the best available facilities and where we can provide a medical course which can compare favourably with those given in the other Australian medical schools. This is essential if we are to be in the position to claim reciprocity. The facilities offered by the Brisbane General Hospital undoubtedly provide exceptional advantages in this direction, and it is my private opinion that the school must at first develop there, so that there will be no loss of efficiency. Later on, when the necessity arises for the establishment of a large hospital in the St. Lucia district, the medical school can go to St. Lucia; but I do plead with those who have the interest of the school at heart not to press for too early a move in this direction. That it should ultimately go there and that the move is desirable from the point of view of the students and the university may be; but let us not be in too great a hurry for it. I should like to see a definite stand taken and to be informed definitely that we shall not be disturbed for at least twenty to twenty-five years or more, after which time the matter could be reviewed. This will be conducive to greater security and stability.

But there are other difficulties, as it is not practicable to establish all the departments of the school at Herston Road. With regard to the first year of the medical course there is no difficulty, for when the university goes to St. Lucia, the subjects taken in first year will be done in departments established out there. It is when we come to second year that the difficulties arise, that is, with regard to the departments of anatomy and physiology. There is much to be said in favour of establishing these departments in the one institution, together with the rest of the medical school. Not only do the medical students in the early years lose a great deal by being separated from the senior students, but the senior students also suffer. The subjects of anatomy and physiology are carried right through to the final years and the isolation of these units from the clinical units would be a disadvantage. The staff also would be at a disadvantage. It is recognized all over the world that there should be the closest cooperation and association between the members of the staff in the various departments; and in several schools steps have lately been taken either to move the school to the hospital or to build a hospital alongside the school. Here in Queensland we have an opportunity of avoiding costly mistakes made in other parts of the world, and I think it is a pity that there should be any possibility of our making any mistakes here.

In the last few years a great deal of criticism has been directed against the medical curriculum. The principal criticism has been that there has been a tendency for the basic medical science departments of anatomy and physiology to drift away from their main functions in the medical schools and to give courses which do not provide the most suitable preparation for the work in the clinical departments. This drift has been due in many cases to the separation of the departments in different localities. It is now generally believed that the student cannot too early be brought in contact with the living subject and made to realize the practical application of the facts of anatomy and physiology.

Recently a special committee was formed in England to go into the question of the medical curriculum, and its final report was published only this year. This report is based on the opinions obtained from the teachers in medical schools in England and should greatly influence anyone who is interested in the establishment of a new school. In framing our curriculum we have embodied in it the recommendations of the committee, but we will not be able so readily to achieve our aims if the departments of anatomy and physiology are completely divorced from the rest of the school.

Our difficulty is this, and it arises from the fact that our department of physiology has been established to cater not only for medical students, but for students in other faculties who will take physiology as a part of their course. The establishment of the department of physiology alongside the hospital with the rest of the medical school would cause a great deal of inconvenience, and it is out of the question at present to think of providing two schools of physiology. This is the way the problem has been solved in some centres. These have a department of general physiology established in close association with the science school and the rest of the university, and another in human physiology established as part of the medical school. This is ideal from many points of view; but for the present it is not a practical solution of our problem. For a long time to come the department of physiology must serve a dual purpose and must of necessity be kept in close association with the departments of biology, chemistry and physics.

When we come to anatomy, however, we do not have the same difficulties. There appears to me no reason at all why the department of anatomy should not be established in closest association with the rest of the medical school, and there are many arguments in favour of this. If the department of anatomy were in the medical school, and the department of physiology were with the rest of the university, the medical students would have the advantage not only of proximity to the university in general, but they would be in close touch from the second year onwards with the hospital and the rest of the medical school. All medical students would have their main interests centred in the medical school, but would still maintain their association with the rest of the university.

Another weighty argument in favour of this proposal is the fact that the full resources of the anatomy department should be readily available to

students in every year of their course and also to the medical and surgical members of the teaching staff; for duplication of this department is quite out of the question. Then there is the question of consolidation of resources. The library, for example, could be under one control and economies could be effected in many other directions. There is also the matter of administration which would be facilitated by such an arrangement.

After giving the problem a great deal of thought, and after listening to the opinions of the various members of the staff who are vitally interested in this question and discussing the matter with them, the proposal I have put forward seems to me to be the most economical and practical solution of the difficulty and in no way interferes with the ultimate establishment of all faculties at St. Lucia.

After all, the plans for the university are being made to provide not merely for our generation or the next, but for hundreds of years to come. One university I worked in abroad was six hundred years old and another was nearly five hundred; so a matter of twenty to twenty-five years is but a trifling consideration.

On an occasion such as this there are many things one would like to discuss. But I think I have said sufficient to let you know what I think our school stands for, what it hopes to achieve, and what I believe should be its manner of development. We have made a creditable beginning, and I hope the calibre and proficiency of our future graduates will justify our existence. No matter what energies are devoted to the establishment of this school and are expended in its future progress, our ultimate renown will depend upon the ideals which we ever hold before us to inspire our endeavour.

THE SETTLEMENT OF TROPICAL AUSTRALIA.[1]

By DOUGLAS H. K. LEE, M.Sc. (Queensland), M.B., B.S., D.T.M. (Sydney),

Professor of Physiology, University of Queensland.

IT is unnecessary for me to stress the sense of honour and privilege that I experience this evening in addressing you as an *alumnus* who has been permitted to return in a professorial capacity to his Alma Mater. I can only trust that with the passage of time you will not have cause to regret your choice, and that your courage in engaging youth, which can show only potentialities in place of achievement, will not prove to have been misplaced.

Since I am to deliver an address associated with the inauguration of a chair rather than a change of tenure, it is fitting that I should include within its scope the main purpose for which the chair has been created. The first purpose of this school is, of course, the teaching of students in the Faculties of Medicine, Dentistry, Science and Veterinary Science. This purpose is widely known and forms the subject of a paper to be read elsewhere. Moreover, many aspects of this function will be demonstrated to you tonight during the subsequent inspection. Hence I feel free to pass to another purpose concerning which there has been considerable speculation, that is, the part to be played by this school in the future development of the State and, indeed, of tropical Australia as a whole.

Modern medical science has brought with it a realization that every problem should be considered upon as wide a basis as possible. In orderly scientific attack upon the unknown it is essential to isolate the variable factors and to study them one at a time. In those sciences concerned with non-living and stable systems the resynthesis of the results of such particulate inquiries is a possible though difficult procedure. In the case of the biological sciences, however, it is impossible to predict, upon a basis of isolated reactions to isolated environmental factors, the behaviour as a whole of even the less complex systems in a complex environment. If, for example, the reaction of the circulatory system to exercise is known and its reaction to heat is known, it is not possible quantitatively to predict what will be its reaction to heat and exercise occurring together.

Because it is vitally important to consider the broad problem as well as the component individual problems when living beings are concerned, I have taken as the title for this address "The Settlement of Tropical Australia", instead of one such as "The Effect of Heat upon the European", which would more adequately describe the narrower interests of this particular school. So much has been written on this subject, so varied is the worth of the considerable discussion, and so small the correlation in all this effort, that I should consider it worse than futile further to contribute to this mass of assorted literature were it not my purpose to define the community interests of this school and to make the strongest plea for extended, patient and coordinated scientific investigation of the entire problem. Armed with this excuse for engaging you in a short voyage in troublesome waters, I proceed to define the problem thus introduced.

The Problem.

The question to which Australia must have an answer is: "To what extent and in what way is human settlement in tropical Australia possible?" The answer to this question must be given as rapidly as is consistent with the accumulation of adequate evidence. To attempt an answer without adequate evidence would be a most foolish and highly dangerous procedure, the possible consequences of which have been only partially seen in the lamentable history of the Northern Territory. The personnel engaged in this inquiry must be proportional to its urgency.

The question and answer involve a host of interwoven considerations, which may be somewhat

[1] The inaugural address of the Chair of Physiology, delivered at the opening of the Sir William MacGregor School of Physiology in the University of Queensland, October 2, 1936.

arbitrarily divided into four classes—economic, social and political, physiological, medical. No hard and fast lines can be drawn between these classes, either for the purposes of investigation or for subsequent appraisal; at the best the division is one of convenience.

Economic considerations involve answering the following fundamental questions: (i) What natural resources can the different parts of our tropical territory provide for the economic support of a resident population, (*a*) at present, (*b*) in the future? (ii) To what extent and in what way might it be justifiable to consider the settlement of a population in such areas in excess of the natural economic resources of the area?

Included in social and political aspects are the further important queries: (i) To what extent is social isolation of the individual by reason of such settlement permissible or practicable? (ii) What density and distribution of population are necessary or expedient in these areas in view of present or probable future international relationships? (iii) Is racial admixture desirable, permissible or feasible in these areas from social or political viewpoints?

From the more purely physiological standpoint numerous highly important questions arise, of which the foremost are: (i) Can the acclimatized European live, work and rear families indefinitely in any of our tropical areas, provided that other detrimental circumstances included under other considerations herein are non-operative? (ii) To what extent is the acclimatized European living in our tropical areas physically, mentally, economically or socially inferior by reason of climate alone to his fellows living in temperate regions? (iii) To what extent do non-climatic factors coincidently operative in these areas vitiate the reactions towards climate previously mentioned? (iv) Are there any innate racial differences which would render any non-European stock superior to the acclimatized European in any of these respects? (v) What is the essential nature of acclimatization, and how may it be facilitated? (vi) Is it possible by preselection to populate tropical areas with individuals more resistant to deleterious influences existing in such tropical areas, or to determine the more suitable persons for the different types of work in the tropics? (vii) How may the daily life be regulated to minimize or combat the stresses imposed by tropical residence?

On the more purely medical side the chief items of desired knowledge include: (i) What is the incidence of communicable disease in the different areas and how do local conditions affect its transmission? (ii) What potential dangers are there of increased incidence of such disease, and how may they be combated? (iii) What are the incidence and causation of nervous and mental disorders in our tropical zones, and how may they be prevented? (iv) To what extent does patent or latent malnutrition, that term being taken in its widest sense, exist in these areas, and what steps should be taken to remedy any deficiencies? (v) What are the incidence and potentialities of clinical "heat effects" in these areas, and how may the position be remedied?

From this list, which includes only some of the major items calling for consideration, one may gain some idea of the magnitude of the problem raised by the simple query: "To what extent and in what way is human settlement in tropical Australia possible?" Upon inspection of the list of subsidiary problems one also notices their close interlocking and overlapping, a feature which makes the giving of individual partial answers not only difficult, but highly dangerous. The practical problem is the whole problem, not any one part of it artificially separated from its fellows. It behoves us, wherever possible, to avoid recapitulating the dangerous results which partial answers to world economic problems have forced upon us.

The Present State of Knowledge.

Before attempting to formulate a basic plan for an attack upon this problem, and before indicating the part which this school should play in such an action, it is advisable to sketch briefly the major investigations of such matters already made in the field, laboratory or office. In advance I might say that the main failing in investigations hitherto conducted, in so far as they concern tropical Australia, is the lack of cohesion and want of uniformity in conception and execution. This is not the fault of the investigators, but the result of inadequacy of means or desire on the part of large organizations to attack the problem from a broad or national viewpoint. Individual effort at all times is laudable, much of it has been accomplished in the most adverse circumstances, much of it has achieved fine results, but all of it has suffered for want of national direction and finance. Without such support the broad aspect is quite unattainable.

The first item for mention is the accumulation of meteorological data and their partial publication by the Commonwealth Bureau of Meteorology. For a long time past records have been made at a large number of stations throughout this continent of many meteorological phenomena, including items pertinent to this inquiry, such as dry bulb and wet bulb temperature readings, relative humidity, maximum and minimum dry bulb readings, wind velocity and direction, and rainfall. At most stations readings are made at 9 a.m. and 3 p.m. At some stations 9 p.m. readings are made in addition, and in a few—very few—places the chief factors are continuously and automatically recorded. The existence of such records is a first essential for climatic considerations, but the value of the records kept has been greatly lessened by the paucity of published summaries. Statistics for a few large cities are published annually, and rainfall records for a number of years have been compiled, but an adequate summary of statistical value is entirely lacking. Such records as have been published (for

example, the Council for Scientific and Industrial Research Pamphlet Number 42, and Commonwealth Year Books) contain such non-comparable data as maximum and minimum dry bulb temperatures with relative humidity based only on the 9 a.m. temperature. Ample data on wind direction are available, but no adequate figures of the distribution or averages of wind velocities. The material is there, locked up in dusty ledgers in the archives of the Melbourne head office, available only at very special request and at great inconvenience to the understaffed bureau. Authors of such text-books as have been published on Australian meteorological conditions have had to contend with this grave difficulty. We badly need a thorough analytical summary of the masses of recorded data upon meteorological conditions in Australia.[1]

In 1908 the Australian Institute of Tropical Medicine was created by the Commonwealth Health Department and located at Townsville. A considerable amount of work was done by this institute between that date and 1929, in which year it was transferred to Sydney and incorporated in the School of Public Health and Tropical Medicine in the University of Sydney. The results of work done there are scattered throughout numerous periodicals and service publications, and some volumes of collected papers have been issued. As far as this subject is concerned, the names of Breinl, Young, Priestley, Cilento, Sundstroem and Baldwin are preeminent amongst these records. The economic and social factors have been subjected to considerable discussion by these writers, and they have pointed out to what extent superficial and fallacious argument has been allowed to dominate these questions. The unique position occupied by Australia in its lack of native reservoirs of disease has been suitably stressed. Medical considerations, naturally, have loomed large in the activities of the institute, but a good deal of consideration has been given to the more purely physiological aspects of tropical residence. The possible effects of such residence upon pulse rate, respiration rate and volume, energy metabolism, blood pressure, blood composition *et cetera* have been subjected to critical study. In general, surprisingly little alteration in physiological activity could be discovered. The investigation undertaken by Sundstroem was particularly ambitious in the scope of physiological activities it covered, but it was unfortunately largely confined to one or two individuals. It is indeed unfortunate that the opportunities afforded that institute were restricted by lack of funds, the turmoil of the War, pressing medical problems and administrative necessities. It was even more unfortunate that its activities in the physiological field were a few years ahead of their time. Through the intense interest aroused in industrial conditions by war-time activities, an immense amount of work has been done upon the effects of heat upon the human worker. This material was consolidated in readily accessible form about the time the institute was removed to Sydney. It has not only opened up fresh possibilities of interpreting old results, but has enlarged beyond imagination the scope and technique of pertinent inquiry into the problem. We are now in a position to conduct experimental investigation in the laboratory and critical observation in the field along comparable lines and to effect some sort of linkage of the results obtained in these two spheres. At the same time as investigations have become more and more detailed in immediate interest, increasing attention has also been paid to the reactions of the organism as a whole. Had this mass of data been available to the workers of the institute fifteen years ago, they would have been spared the trials of pioneer effort and their valuable work would have yielded much more adequate answers to the questions propounded.

The 1920 Australasian Medical Congress took as the principal subject for discussion "The Question of the Possibility of the Permanent Occupation of Tropical Australia by a Healthy, Indigenous White Race, and the Conditions Conducive or Essential to such Occupation". A subcommittee presented a report in which the obstacles to attainment of the ideal were minimized and a glowing future was predicted with the concluding statement:

> The Subcommittee is unable to find anything pointing to the existence of inherent or insuperable obstacles in the way of the permanent occupation of tropical Australia by a healthy indigenous white race . . . . A large amount of work still requires to be done in working out the practical details of any scheme of settlement, but they consider that it presents no difficulties beyond those of organization, staff, time and money.

Opposition to this conclusion was expressed by Nisbet in a somewhat gloomy account of the average northerner looking forward only to the time when he could escape to the south, presumably to die. A number of resolutions were passed by congress urging the close correlation of the results of scientific investigation and practical experience with appropriate action, extension of the work of the Tropical Institute, statistical investigation, additional observations in the examination of cadets and school children, dissemination of existing knowledge in tropical hygiene and special legislation. The creation of a Federal Ministry of Health, the strengthening of the Quarantine Service, and extension of the Hookworm Campaign were foreshadowed.

As affording an opportunity for the proper consideration of all available data on their own merits, and for the formation of a sound conclusion, the congress seems to have been largely abortive. Sides appear to have been a little too readily taken and the rival viewpoints presented somewhat too vociferously. The turmoil of war, furthermore, had interfered with the proper collection and consideration of requisite information. As a stimulus to national action the congress seems to have been

[1] Since this address was delivered I have received from the Weather Bureau extensive data on Queensland stations, which they have very kindly supplied in response to an earlier request.

working against fate. Whatever the cause, there has been but little direct addition since that time to our immediate knowledge of the problems of tropical settlement in general or of Australian conditions in particular, and but little coordinated effort to advance the cause either of scientific investigation into or the execution of settlement of this area. The experience gained in attempted settlement of tropical lands outside Australia and the outcome of these efforts have formed the subject of a considerable body of literature and have given rise to heated debate, in the course of which soundness of argument and critical analysis of a situation have often been subjugated to the enforcement of an opinion. There have been gloriously optimistic accounts of the future prospects of such settlements, but gloomy foreboding has been poured out in greater quantity. In general, too little distinction has been made between climatic factors more or less universally operative and the host of adventitious and variable economic, social and racial influences which have played and which still play such an overwhelming rôle in deciding the fate of white settlement in any particular locality. Very full accounts of such settlements may be found in the writings of Anderson, Elkington, Gorgas, Guiteras, Hitze, Leslie and Wagemann. Huntington, Balfour and Cilento have collated a number of these and have attempted to draw broad conclusions therefrom. Huntington in particular has elaborated a formidable theory of human habitation and climate, but one in which facts are forced by ingenious and sometimes naïve reasoning to cast a mantle of verisimilitude over a ghostly frame.

A survey of operative factors relevant to Australian settlement was brought out by Cilento, and in more recent years A. Grenfell Price has maintained public interest in these matters.

A valuable contribution to the study of the Australian problem has come from Professor S. H. Roberts, of Sydney, in his history of attempts to settle the Northern Territory. So much is often said concerning the Northern Territory upon the basis of so little real knowledge, that it behoves everyone to make himself familiar with its history before indulging in controversy upon this question. Roberts's account deals not merely with historical facts, but brings to the forefront the essential principles involved in colonization of such an area. In 1924 he wrote:

> Romance, inflated hopes, disillusion, drift, moderate development—such seem to have been the successive stages, but the turning point has been reached, if—and this is a fundamental qualification—scientific evaluations are not once more thrust into the background by unduly optimistic statements.

This appeal for an extensive and thorough scientific evaluation of all the factors concerned is reiterated in a paragraph from the pen of his associate, Miss Hentze, published in 1936:

> To sum up the position in tropical Australia, it may be said that although white settlement is not barred by climate, conditions generally make it difficult and certainly expensive: that penetration of tropical regions (with certain exceptions) will therefore be gradual, and development of tropical possibilities correspondingly slow. When this has been said, it must be added that there is an urgent need for more research on the subject, and particularly for an attempt to consider tropical Australia as a whole.

I have dealt at some length with the extent of our knowledge of conditions in tropical Australia. I have indicated the close dependence of their proper evaluation upon fundamental knowledge of how the human body reacts to different environmental stresses, and I have outlined the attempts that have been made in Australia to obtain this knowledge. In the course of the latter procedure I have hinted that our knowledge of human physiology in general has since been greatly extended as the result of intensive and world-wide activity, and that rapid advances have been made in the technique of investigating man's reaction to heat in particular. It is necessary that I should review very briefly the extent of these recent advances.

At no very remote date the temperature of a particular environment was held to be the one factor of importance to the human body in tropical climates. The official no less than the public mind thought of the tropics and hot industries in terms of dry bulb temperature only. Even today climatological considerations are largely limited to considerations of dry bulb temperature and rainfall. Haldane was one of the first to draw attention, in 1905, to the importance of the humidity as well as the dry bulb temperature in climatic effects upon the human body. (We now know that as a result of this rather too much attention was given to the wet bulb temperature.) L. Hill and his colleagues then introduced the very important consideration of wind velocity, and demonstrated the importance of rate of evaporation from the body, incidentally giving the death blow to the carbon dioxide theory of ventilation requirements. The importance and method of operation of other factors, such as radiant heat, photo-chemical activity of radiation, atmospheric pressure, and electrostatic conditions, have undergone simultaneous, though not always coextensive, development. It is more nearly possible today than it has ever been before to distinguish the incidence, operation and possible effect of each of these factors in a given climate.

To distinguish between these factors and to consider them separately are not sufficient however. If climates as they occur *in toto* are to be evaluated in so far as they affect the human organism, there must be available some method of considering the combined effect of all the factors when they are coincident. We wish to know not merely what a certain dry bulb temperature does, or what a certain humidity may achieve, or what a given wind velocity effects; we desire to know what will be the result when all these things are happening at once—a result which can be obtained by no simple addition of separate effects. It is to the everlasting credit of, first, L. Hill and his colleagues and, later, of

Houghten Yagloglou and co-workers, that they conceived the necessity for this and developed means of evaluating and equating these complex environments. By means of the katathermometer and the effective temperature scheme respectively, they laid the basis for the extensive considerations which have been given to the combined effects of temperature, humidity and wind velocity. To this trio radiant heat may now be added.

Pari passu with these studies in environment and with the rapid expansion of physiology in general, numbers of workers all over the world have been busily extending our knowledge of the mechanisms of heat regulation, water balance, endocrine activity and acid base regulation. This knowledge, added to the already considerable understanding of metabolic and circulatory functions, has converted a primitive plantation of bodily knowledge into rolling acres of intensive cultivation. Gone are the days when the lone student could study each growth at some leisure and in some detail and still retain a working knowledge of the whole plantation. Today numerous and complex teams till the soil, each member charged with the performance of a limited function over a small area, and only vaguely aware of the larger whole. Yet the need for coordination and single direction of the vast acreage has not vanished; on the contrary, it has become more important than ever, and so two groups of individuals have grown out of investigational needs—the detailed workers and the coordinating directors—each group sufficiently versed in the methods and needs of the other to render possible understanding and assistance. Only by such means can the modern situation be tackled.

It would require several volumes to record the results of investigations into the effects of heat upon the human body. It would require many more volumes to mention the various inquiries into the behaviour of the nervous system and of the endocrine glands, to say nothing of the interrelationship between these three subjects. Yet all this, especially the aspect of interrelationship, is of vital importance in considering the effect of tropical residence. Not only must the operation of each environmental factor be understood, not only must the reaction of each part of the body be made clear, but the reaction of the whole body, the total organism, to the whole gamut of possible environmental combinations must be thoroughly and systematically envisaged. Such is the incredible complexity of the problem which awaits anyone who dares to contemplate the question with which I opened the address.

At this stage it is convenient to tabulate our present knowledge of tropical influences before considering what our future action must be.

1. Extensive meteorological data are in existence, but require compilation.

2. Numerous physiological and social investigations have been made in the Australian tropics, but these have been limited in the number of subjects investigated, items subjected to inquiry, coordination of effort or availability of basic data.

3. The clinical and preventive aspects of tropical medicine are very well defined and their application to Australian territory is well on the way to solution.

4. The experiences of colonists, medical administrators and others in regard to tropical settlement elsewhere have been collated in accessible publications.

5. Very extensive investigations into the varied aspects of hot industries have been made and offer many valuable suggestions, but they are not directly applicable to tropical settlement.

6. The rapidly expanding science of physiology provides an ever-increasing wealth of knowledge regarding the manner in which the body reacts to heat and other influences identifiable in tropical climates, but the application of these to tropical problems is still in its infancy.

7. Economic and political knowledge and needs have increased rapidly during recent years and call for fresh orientation of tropical problems.

8. Geological, geographical, agricultural and pastoral knowledge now permits us to estimate more adequately the resources and possible future developments to be expected from our tropical areas.

Activities Required.

If one endeavours to answer upon the basis of present knowledge the manifold questions raised by the initial inquiry: "to what extent and in what way is human settlement in tropical Australia possible?" one finds that one is not able to formulate a complete answer, or anything approaching a complete answer to any one of them. Every turning is blocked by lack of information and the seeker finds himself confined in a maze of closed avenues. There are few conditions more aggravating than to possess a large mass of facts and yet to be lacking in just those facts and applications of knowledge which are essential for the problem in hand. The situation is not rendered the less irksome by the large amount of talking and specious argument under which factual deficiency has been concealed. Nowhere is the opportunity or the need for deciding these questions more patent, yet nowhere is one likely to find blind avenues more confusingly presented.

That the main question and its subsidiary problems must be answered, and answered rapidly, is clearly indicated by daily portents. Rightly or wrongly, our retention and seclusion of large areas of unoccupied territory do call forth comment abroad. To meet these implied criticisms we must demonstrate either that we are in the process of settling these areas or that, after a thorough examination of the problem, we have concluded that they are uninhabitable upon an economic scale. Whichever course we pursue, we must act with a full knowledge of what our action implies; and such knowledge is not available. Apart from any other nation's desires for territorial gains, the ineffectively

unoccupied coastline raises acute problems of defence, particularly in regard to the establishment of hostile air bases.

If we turn to the domestic field, what can we say of our occupied tropics? Are we getting the best return for our human investments in these areas, and are our settlers being given adequate protection against climatic stresses? A very brief survey is sufficient to raise doubts on this score. Here again we have not sufficient knowledge to deal with the situation. Although industrial hygiene has reached a high efficiency in the temperate countries, inadequate attention has been given to the peculiar demands of tropical industries.

How, then, shall we gain the knowledge with which to meet these urgent problems? The answer is: by extensive and continuous research, in the laboratory, field and library, conceived, financed and created upon a national basis. The lessons of the past, the developments of the present and the requirements of the future unite in demanding that such investigations be undertaken upon no less a basis.

The tenacity of far-seeing public men and the generosity of the State Government have rendered possible the new Faculties of Medicine, Dentistry and Veterinary Science in this State. Some of the facilities offered by these new developments you are to see tonight. Queensland has never before been given such an opportunity of making a national attack upon tropical problems.

This physiology school has an adequate basic equipment, including many items necessary for tropical investigation. Arrangements are in hand for the erection of a room in which tropical atmospheres can be reproduced and maintained. The staff is interested in the problems mentioned, and I have had the privilege of studying some of the experimental aspects in England and America. Thus a start can be made upon the problem and graduates can be trained to cope with its various aspects; but unless these and all past efforts are incorporated in a national research programme, no solution can be reached. We have seen the futility of sporadic effort; coordinated action is imperative. The minimum basis for efficient attack is, first, the organization of a base laboratory with competent, vitally interested research workers, free from an undue amount of distracting routine, and thus capable of bending their most critical faculties to the problems. This must be followed by the institution of one or more field units, conducting in the tropical areas investigations along lines closely parallel to those followed at the base. In such a way comparable results might be expected and advances confidently awaited. Within these organizations, or easily accessible to them, varied economic and politico-social information and inquiry would of necessity require development. The highly desirable result of such coordinated effort might be termed the development of the tropical aspects of human biology.

The wider aspect of this plan will be apparent to you when I mention that similar requirements for nutritional investigations in this State have been foreshadowed. Knowledge and human necessities know no artificial division of subjects; nothing but good to the individual and to the State can come from the combining of physiological, medical, nutritional, dental and sociological knowledge in an attack upon the obstacles to human progress in our tropical fields.

It is not my purpose here to detail any one strategical plan. I have for my own consideration drafted many in which the relationship between the Government, the University and other social organizations varies in detail, but in all I have been forced to maintain three principles: (i) the widest scope of inquiry, (ii) the national orientation of activities, (iii) the development of existing facilities with the closest cooperation between them. Without these the attack must fail.

When the Government gave its consent to the creation of a medical school within this university, it was clearly laid down that a further purpose was to be served than that of swelling the ranks of medical graduates, important though that might be. The Government wished the particular problems of this State to receive due consideration. Tonight I present to you one of the most important functions the school can perform—the provision of fundamental facilities for the determination of the question: "To what extent and in what way is human settlement in tropical Australia possible?" It remains for the people of Queensland to see that the pioneering achievements of the past and the medical provisions of the present are consolidated and extended in the service of "Australia Felix".

Reports of Cases.

ADDISON'S DISEASE TREATED WITH LIQUID EXTRACT OF THE SUPRARENAL BODY.

By H. T. ILLINGWORTH, M.B., Ch.M. (Sydney),
Resident Surgeon, Queen's Home, Adelaide.

H.S., a female patient, aged thirty-three years, was treated from December 2, 1935, until February 29, 1936, when she died in coma. The following details of the case seem worth recording, unimportant points being omitted for the sake of brevity.

The symptoms complained of were "gas" in the stomach, which was worse in hot weather, inability to work, and a gradual onset of weakness dating from July, 1935. Apart from loss of weight and constipation, there were no abnormal subjective symptoms. The patient had lost three kilograms (seven pounds) in weight in eight months.

Physical examination on December 2, 1935, showed the pulse rate to be 88 in the minute, the systolic blood pressure 130 and the diastolic pressure 80 millimetres of mercury, and the temperature 36·7° C. (98° F.). The face was pale, drawn and slightly sallow, the lips were very thin and bluish, and the tongue was slightly furred. The urine was acid and had a specific gravity of 1015; no albumin or sugar was present. The lungs presented no abnormality. The heart was small, the only abnormality being a diastolic murmur at the cardiac apex, not con-

ducted into the axilla. This, associated with the pulse rate and a low blood pressure, suggested myocardial weakness and possibly early mitral stenosis. On examination of a blood smear secondary anæmia was reported.

The original diagnosis was anæmia of cardiac origin, not related to the menstrual condition, which was normal. There was thought to be some associated indigestion.

For two months, during which the patient was given iron and "Easton's syrup" and was forced to rest, there was no further loss of weight. The patient's colour improved and the subjective symptoms diminished. The systolic blood pressure, however, declined to 110 and the diastolic pressure was 80 millimetres of mercury. The pathologist had reported that there were no nucleated red blood cells in the smear examined.

On January 17, 1936, the patient developed a double follicular tonsillitis, which kept her in bed for four days. She then went for a holiday, which had been suggested earlier, and from which she returned on February 5, 1936. While she was away she took a mixture of digitalis, strychnine and aromatic ammonia, as well as some Blaud's pills and "Ostelin" tablets, as tonic treatment.

On February 5, 1936, the patient's face was quite pigmented and there were numerous pigmented spots on both forearms and across the abdomen. The extremities of the hands and feet were of a dusky blue tinge and the patient experienced extreme weakness and tiredness. The pulse was of very low volume, its rate was 106 in the minute; the systolic blood pressure was 100 and the diastolic pressure 60 millimetres of mercury. The cardiac sound were weaker and the murmur was still present as before.

The patient's condition was now regarded as critical and she was admitted to the Freeling Hospital and given a digitalis mixture, as well as hypodermic injections of adrenaline, pituitrin and liver extract in turn every eight hours. The condition was thought to be either extreme myocardial failure (with anæmia) or Addison's disease.

Dr. C. T. C. de Crespigny, of Adelaide, saw the patient on February 22, 1936, in consultation.

At this stage obstinate vomiting occurred and the patient was given nutrient enemata of egg, milk and saline solution twice a day. But, although the pulse rate had dropped to 90 per minute, the systolic blood pressure had dropped to 90 and the diastolic pressure to 60 millimetres of mercury, and the volume was extremely weak. The patient had severe constipation and, after she was given paraffin oil twice a day with only poor results, it was necessary to administer enemata. Moreover, the fluid intake was unsatisfactory and a half-hourly food chart was kept, showing from 1,710 to 2,850 cubic centimetres (60 to 100 ounces) intake every twenty-four hours, including the nutrient enemata.

Dr. de Crespigny confirmed the diagnosis of Addison's disease on account of the low blood pressure, the extreme wasting and weakness, the vomiting and abdominal symptoms, the response to "Cortin" (referred to below), the pigmentation and the absence of any other detectable cause sufficient to explain these symptoms. Dr. de Crespigny took an electrocardiogram, which revealed considerable myocardial weakness. He found the hæmoglobin value to be 90%, and examination of a blood smear revealed a mild degree of microcytic hypochromic anæmia.

Treatment.

Up to this point there had been no response to liver extract ("Hepasol", one cubic centimetre *per diem*), adrenaline (one cubic centimetre *per diem*), pituitrin, brandy, nutrient enemata, or other treatment. There had not even been any reaction shown on the temperature chart. There was, however, a dramatic change to follow.

Cortico-adrenal tablets (two tablets being equal to one gramme of cortex) contain a potent extract of the suprarenal gland, prepared under the direction of Sir Stanton Hicks, of the University of Adelaide. At Dr. de Crespigny's suggestion, these tablets were given to the patient, one every four hours. There was an immediate reaction, the pulse rate rising to 128 in the minute and the temperature to 38° C. (100·4° F.). In the following six days a very severe reaction took place.

The patient's mental outlook, which had been morose, brightened considerably and the blood pressure rose—the systolic to 100 and the diastolic to 70 millimetres of mercury. The great difficulty encountered, however, was that intractable vomiting persisted and was brought on even by the tablets. At this stage they had to be given every six hours, and subsequently every eight hours in powdered form. The tablets then had to be fractioned and finally discarded altogether. No food was given by mouth, since it was all returned, but glucose and saline solution (up to three-quarters of a pint) were given rectally three times in each twenty-four hours and were mostly retained.

On February 27, 1936, Dr. de Crespigny, in consultation with Sir Stanton Hicks, forwarded some freshly prepared "Cortin", a potent liquid extract of the suprarenal gland, put up in one cubic centimetre ampoules. The exhibition of this extract was commenced immediately, the patient being given one cubic centimetre every twenty-four hours, then one cubic centimetre every twelve hours. Again a considerable subjective response occurred in the patient, who was rather drowsy and apathetic between injections, but brightened up immediately they were given.

Another unfortunate sign now appeared, namely, distressing attacks of hiccup, which persisted sometimes for thirty minutes and even occurred while the patient was asleep. She was treated with tincture of iodine, magnesia, gulps of water and other means, the most satisfactory results being obtained from hypodermic injections of atropine sulphate, 0·43 milligramme (one one-hundred-and-fiftieth of a grain), which seemed to check the hiccup eventually. "Amytal" tablets were also beneficial.

On February 28, 1936, Sir Stanton Hicks and Dr. O'Connor, from the University of Adelaide, saw the patient and were agreeably surprised at her mental alertness and general condition, considering that she had not taken any solid food for nearly three weeks. She was, however, very thin and dehydrated; the attacks of vomiting and hiccup were extremely weakening.

The administration of "Cortin" was persisted with, one cubic centimetre every eight hours being recommended.

On February 29, 1936, at 8 a.m., the patient collapsed and 0·065 gramme (one grain) of strychnine, brandy, and one cubic centimetre of "Cortin" were administered. The pulse recovered remarkably and the attack of coma vanished; the patient became bright and chatted with her relatives. However, at 1 p.m. another collapse occurred, followed by deep coma, during which the pulse was not perceptible. A further cubic centimetre of "Cortin" was given, but in forty minutes breathing ceased, in spite of the subcutaneous injection of 50 cubic centimetres of saline solution.

Comment.

1. The fatal progress of a case of Addison's disease has been recorded.

2. The dramatic reaction to cortico-adrenal tablets and "Cortin" (liquid extract) has been demonstrated.

3. The complications of vomiting and hiccup have been stressed and their unfavourable import noted.

4. My chief regret in this case is that I was unaware of the existence of the potent extract of suprarenal gland, and my chief aim in writing this article is to acquaint medical practitioners with its existence.

5. I think that the limited success was due to the delay in applying the treatment and that the lack of sufficient time to test the treatment thoroughly considerably affected the outcome.

6. My thanks are due to Dr. de Crespigny and to Sir Stanton Hicks for the interest they showed in this case and for the assistance given.

7. From my very limited experience in this case I feel justified in recommending a further and more thorough trial of extract of suprarenal gland in all similar cases. I would emphasize the importance of using fractional quantities of the solid gland and of varying the quantity given with particular care in accordance with the reaction. The supplementing of the solid gland with "Cortin" (liquid extract) is strongly recommended.

SUBTOTAL REMOVAL OF A TUMOUR OF THE RIGHT TEMPORAL LOBE.

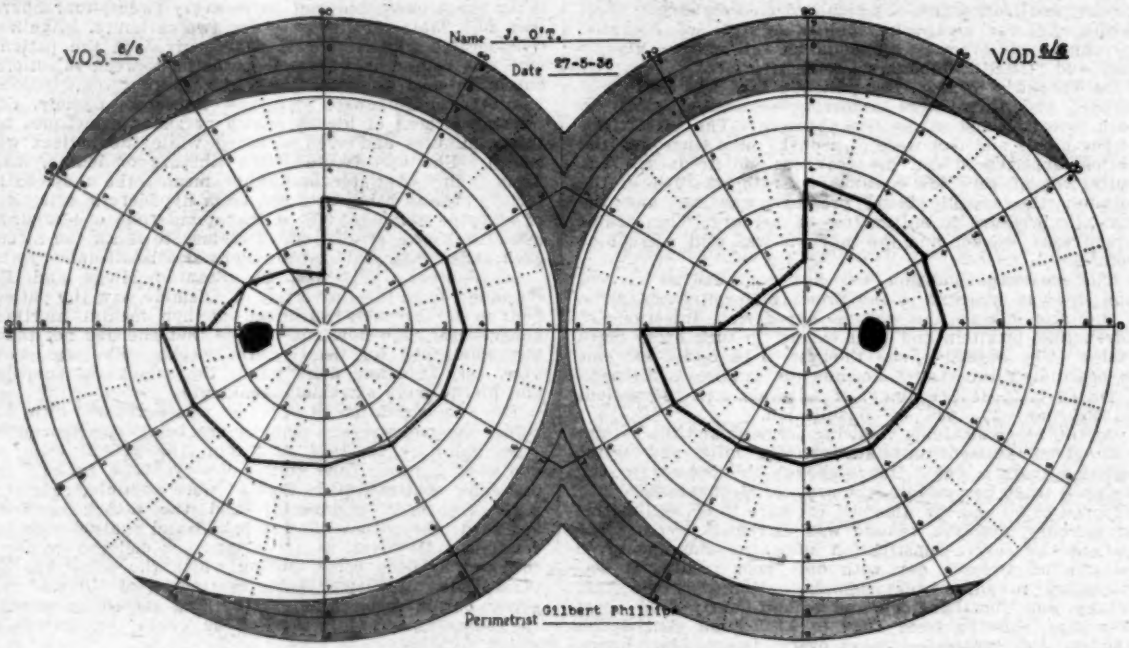
By GILBERT PHILLIPS, M.S., M.Sc. (Sydney),
Honorary Neurological Surgeon, Lewisham Hospital.
(From the Department of Surgery, University of Sydney.)

THIS case is of interest and is reported because it displays all the classical signs and symptoms of a tumour of the right temporal lobe in a right-handed individual, and because the neoplasm itself, an oligodendroglioma, is a very rare tumour of the brain. In Bailey and Cushing's series of classified gliomas the frequency of oligodendrogliomata was 3·5%, or rather less than 1·5% of all intracranial tumours.

The patient (J.O'T.), a priest, aged twenty-six years, was referred to the Neurosurgical Unit at Lewisham Hospital in May, 1936, by Dr. J. D. Herlihy. He had never had any serious illnesses or operations and there was nothing relevant in the family history other than that a female cousin had died a few years previously from a cerebral tumour. The present illness commenced suddenly without warning in April, 1933, when he collapsed and became unconscious during the conduct of his parish duties. He regained consciousness during the next half-hour, and, after remaining in bed for three or four days, he was able to resume his work. He had two precisely similar attacks of unconsciousness during the next four months; but the fourth attack did not occur until May, 1935. In the period between September, 1933, and May, 1935, however, he experienced many minor attacks, which he described as "hazes" or "attacks of drowsiness", when he would lose the thread of his discourse for several seconds, or drop off to sleep while sitting down, when he had no reason to be tired. Five major attacks had been experienced since May, 1935. There had been many minor attacks in the past twelve months, sometimes ushered in by precordial pain, sometimes by pain in the left arm followed by pain in the left leg, and on four or five occasions in the past few months by a queer and indescribable taste or smell.

Physical examination on May 6, 1936, disclosed no abnormal neurological signs. A small-volume encephalogram (15 cubic centimetres by air being injected) showed slight displacement of the third ventricle to the left.

On May 27, 1936, an early papilloedema was detected in each fundus, and examination of the visual fields on the Bjerrum screen showed an upper left homonymous quadrantopsia (Figure I), congruous in type and with the macular region spared, indicating a lesion of the lower fibres of the right optic radiation. A diagnosis of tumour of the right temporal lobe was made and it was thought that the neoplasm probably extended as far forward as the *uncus* and as far posteriorly as the junction of the right temporal and parietal lobes. Early in the first week in June the patient commenced to suffer from severe occipital headaches, and he vomited on three occasions. On June 3, 1936, left lower facial weakness was noticed for the first time, and it was found that the tongue deviated to the left on being protruded.



Three millimetre test object at two metres.
Early papilloedema is now present in each fundus.

FIGURE I.

The anæsthesia chart (Figure II) records the patient's condition and the various stages of the operation performed on June 5, 1936. When the brain was exposed the right Sylvian vein was seen to be pushed upwards, and the right temporal convolutions were flatter and wider than normal. The tumour was presenting at the surface over a very small area towards the anterior end of the superior temporal gyrus. The middle temporal convolution was incised and the underlying tumour, which was very vascular, was scooped out with an endothermy loop to a depth of three centimetres. It was not considered advisable to proceed deeper owing to the danger of entering the temporal horn of the lateral ventricle. The tumour appeared to be extending back into the occipital lobe. The patient's condition was quite satisfactory at the close of the operation.

Convalescence was uneventful; all sutures were removed by the seventh day, and three weeks after operation the patient reported at the Medical School to be photographed

LEWISHAM HOSPITAL

ANAESTHESIA CHART

Name J.O'T. Ward T.F. Age 26 Date of Operation 5-6-36

Lungs NORMAL Heart NORMAL

Urine N.A.D. Blood Pressure 120/80 Rectal Temperature

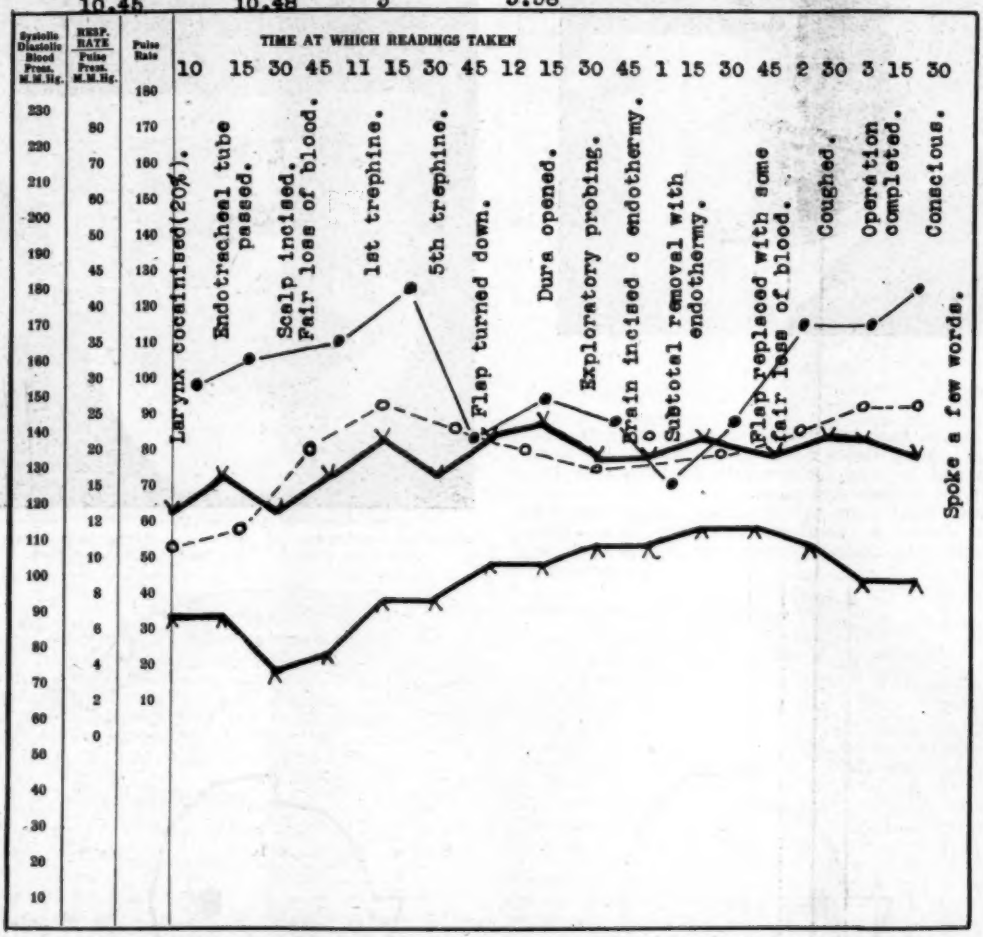
Operator Gilbert Phillips 1st Assist Macintosh Preliminary Drugs Avertin

Operation Craniotomy Anæsthetic Avertin and N2O. Amount 7.6c.c. at 9.30a.m.

Method of Administration

Time of starting anæsth., beginning of op., removal of anæsth., and close of op., to be recorded on chart.

10.45 10.48 3 3.58


Systolic Diastolic Blood Press. M.M.Hg.
RESP. RATE
Pulse Press. M.M.Hg.
Pulse Rate
TIME AT WHICH READINGS TAKEN
10 15 30 45 11 15 30 45 12 15 30 45 1 15 30 45 2 30 3 15 30
Larynx cocainised(20%).
Endotracheal tube passed.
Scalp incised. Fair loss of blood.
1st trephine.
5th trephine.
Flap turned down.
Dura opened.
Exploratory probing.
Brain incised c endothermy.
Subtotal removal with endothermy.
Flap replaced with some fair loss of blood.
Coughed.
Operation completed.
Conscious.
Spoke a few words.

CODE:—● PULSE RATE; O RESPIRATION RATE; V SYSTOLIC AND DIASTOLIC BLOOD PRESS.; X PULSE PRESS.

Induction: Avertin 7.6c.c. and Novocaine 1% with 1/200,000 adrenalin into scalp.

Subsequent anæsthesia:— Nitrous oxide.

Condition on leaving operating room:— GOOD.

Drains 1 Gutta-percha Anæsthetist H.J.DALY.

Note:—An anæsthesia chart must be completed on all cases operated upon, local anæsthesia cases included.

FIGURE II.

(Figure III). At that time he had had no headaches or vomiting since operation, and although no further "Luminal" had been exhibited (he had been having 0·18 gramme, or three grains *per diem* before operation) there had been no further "hazes", "dreamy states", or olfactory hallucinations. Left lower facial weakness still persisted (Figure IV). On July 6, 1936, examination of the fundi showed that papilœdema had subsided and perimetry with the Bjerrum screen indicated that, although still present, the homonymous defect had decreased (Figure V).

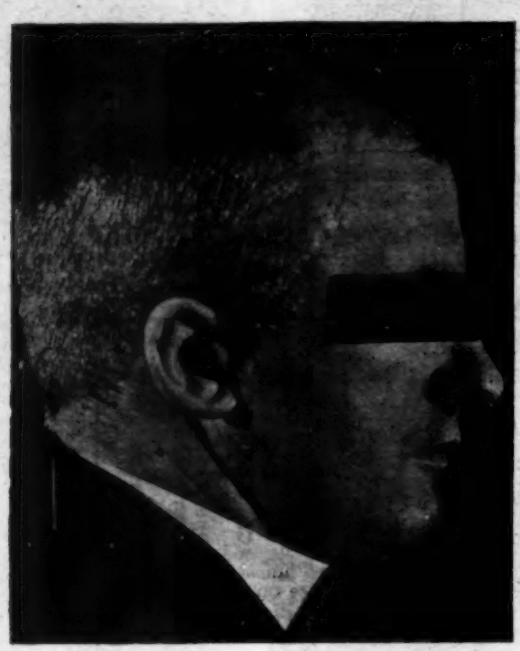


FIGURE III.
The patient three weeks after operation, showing the wound healed.

In view of the vascular nature of the tumour it was thought that the patient might be benefited by deep X radiation and he was consequently discharged to Dr. A. T. Nisbet for further treatment.

Histological examination of the tumour tissue removed at operation showed a vascular oligodendroglioma. This tumour (Figure VI), though very cellular, rarely contains

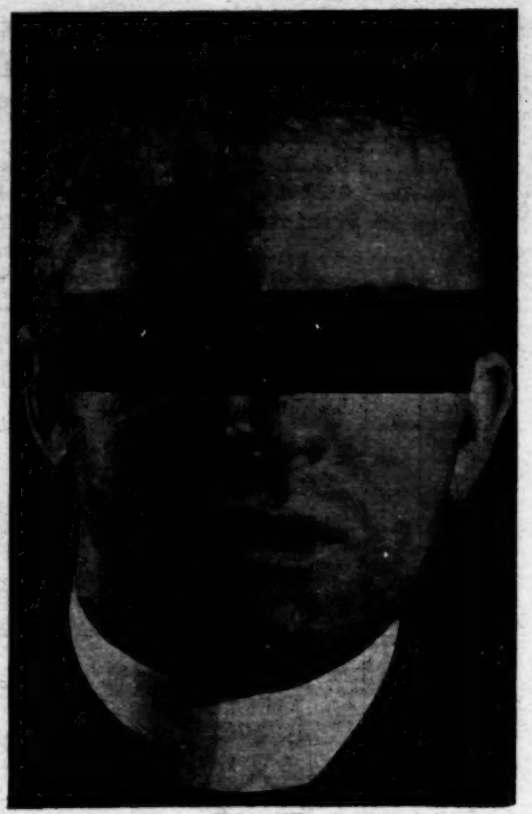
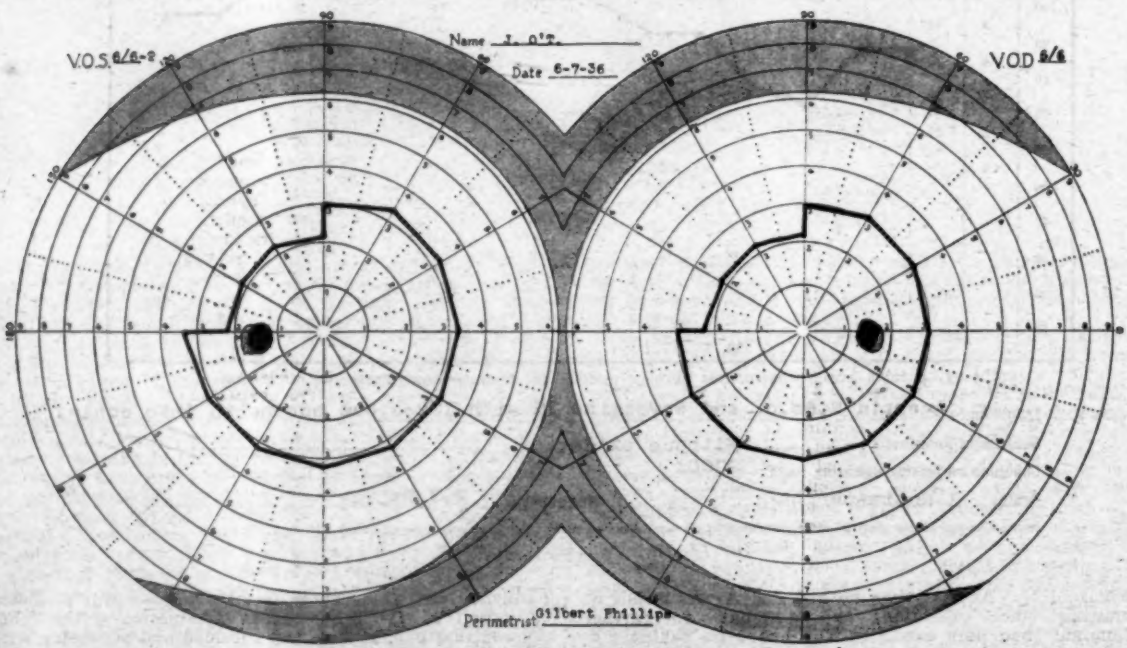


FIGURE IV.
Showing persistence of weakness of the lower part of the left side of the face after operation.



Three millimetre test object at two metres.
Papilloedema has now subsided.

FIGURE V.

mitotic figures, is often calcified, and grows more slowly than any other tumour of the glioma group.

Tumours of the temporal lobe are among the most difficult to localize accurately. Although late in the history of these cases, general signs of increased intracranial pressure may be present, such localizing signs as exist are so indefinite or have appeared so gradually and so inconspicuously that it is often wise to await the results

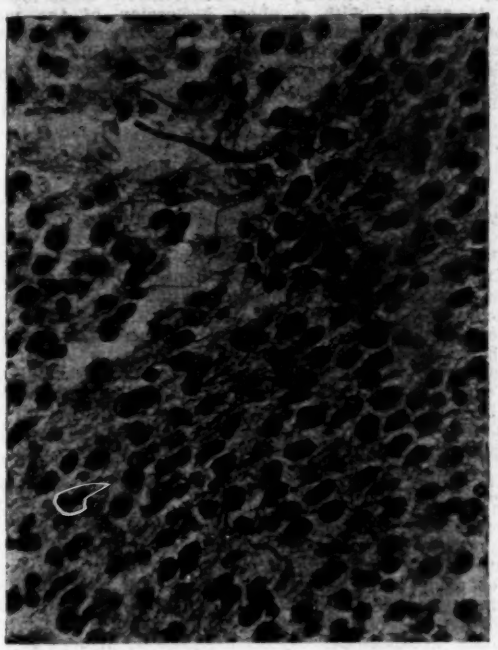


FIGURE VI.

Photomicrograph of a section of the tumour (oligodendroglioma), showing the character of the dark-staining rounded nuclei and the absence of mitotic figures (×400).

of ventriculography before proceeding to operate. It is therefore of interest to note in the case reported here that such classical signs as olfactory-gustatory hallucinations, homonymous hemianopia, "dreamy states", lower facial weakness, and displacement of the third ventricle, were all recorded before operation.

Reviews.

MASTURBATION.

THE present edition of Dr. J. F. W. Meagher's work is the third, the first having appeared in 1924. It has been reedited and revised by Dr. Smith Ely Jelliffe, one of the most widely known of American neurologists.[1]

Dr. Meagher is to be congratulated on his work, for, although he has given us only 140 pages of matter, he has managed to produce, in a most readable form, practically all the modern knowledge on the various aspects of masturbation. Everyone who is not blind to the facts of life and ignorant of modern research will agree that masturbation is a form of sexual activity which is universally present at a certain stage in sex development. It constitutes in fact one of the several modes of relief of internal (sex) tension and can be regarded as a normal psycho-physiological act in the infant or from infancy into adolescence. The author rightly pleads for a proper study of the sexual life of man, especially by the medical profession. A wider and saner outlook on matters of sex is required of everybody, but the physician and the clergyman must have a fuller knowledge, for it is to them that parents and patients come for advice. In the past neither of these professions was properly equipped for the task, and even now there are many in both professions who are inadequately acquainted with the results of modern thought on sex matters and therefore not fully equipped to help sufferers.

Dr. Meagher's book supplies all the information necessary for the understanding and treatment of these disorders. The author is evidently a close student of psychoanalysis, for his views on the development of the psychosexual life and upon the various psychic mechanisms involved in the attainment or lack of attainment of full normal adult sex expression are those of the psychoanalytical school.

In the final chapter treatment is dealt with very lucidly and very fully, and Dr. Meagher rightly emphasizes that each patient has to be carefully approached and treated in accordance with his or her psychological type and the total environmental situation.

The whole of the chapter on treatment is very sound, but no mention is made of treatment by hypnosis or psychoanalysis. Hypnosis has been successfully used by at least one Australian practitioner in boys where all other methods have failed. There can further be no doubt that many cases, especially when the habit is continued on into adult life, can be cured only by psychoanalysis. It is rather remarkable that the author has not stressed this, seeing that he has largely used the psychoanalytical method of approach to the whole problem.

One other point of criticism can be made; it is only a minor one perhaps; it has to do with the connexion of long-continued masturbation and true neurasthenia. One cannot assert that masturbation is the one and only cause of neurasthenia, but it can be asserted with considerable confidence that long-continued masturbation is a potent cause of the fatigue syndrome so commonly met in practice.

Apart from these few criticisms, the book deserves great praise, and the medical profession would be well advised not only to read it themselves, but to recommend their clerical brethren to do the same.

[1] "A Study of Masturbation and the Psychosexual Life", by J. F. W. Meagher, M.D., F.A.C.P.; Third Edition; reedited and revised by S. E. Jelliffe, M.D., Ph.D.; 1936. London: Baillière, Tindall and Cox. Crown 8vo, pp. 162. Price: 8s. 6d. net.

VASCULAR DISORDERS OF THE LIMBS.

THE interest of physicians and surgeons has been attracted of recent years to the advances made in the clarification of the various syndromes of vascular occlusion in the limbs. The accounts of work done at University College Hospital in this connexion appearing in *Heart* and other journals have impressed readers with the fact that the English school of clinical physiologists, of which Sir Thomas Lewis is one of the leaders, has maintained its position in the vanguard of research in the fundamentals of medicine.

This little book sets out the results of recent investigations in a form easily comprehended by even the junior student.[1] The early chapters dealing with circulation in the limb and its testing are especially interesting. Skin temperature, colour changes in the extremities and the controls of the blood vessels are explained in a most lucid manner. The subject is far from being of academic interest only, and Sir Thomas Lewis describes in detail the alternative methods of estimating the degree of spasm or nervous influence involved in circulatory disease of the limbs. The effects of circulatory arrest on the nerves of the limb are emphasized. The oft-debated subject of pain of so-called vascular origin is settled by the author. In his opinion, the pain in embolism is due to ischæmia of the muscles.

[1] "Vascular Disorders of the Limbs Described for Practitioners and Students", by T. Lewis, C.B.E., F.R.S., M.D., D.Sc., LL.D., F.R.C.P.; 1936. London: Macmillan and Company Limited. Demy 8vo, pp. 122. Price: 6s. 6d. net.

The absence of pain in embolism of the spleen and brain is adduced as evidence that muscle is the source of the pain in embolism in the limbs. The hypothesis which postulates sensory nerves in arteries transmitting painful impulses is thus rendered unnecessary. In suitable cases of thrombo-angiitis, lumbar sympathectomy is recommended. Conservative amputation is advised in gangrene due to this disease. The author states that there is no known permanent vaso-dilator.

A most valuable chapter on vaso-constriction will appeal to readers. Sir Thomas Lewis is the recognized authority on this subject, and his masterly account of the reactions of arteries, veins and arterio-venous anastomoses to various reagents, including external cold, is especially interesting, since he himself is an original and major contributor to our present knowledge of the subject.

In Raynaud's disease sympathectomy is advised in cases of severe degree, but before operation is recommended the disfigurement resulting from the unilateral cervical operation must be weighed carefully with the nutritional changes occurring. Erythrocyanosis of the legs is stated to have come in with short skirts, and the treatment is advised accordingly.

As the book is the work of a physician, little can be expected on operative technique. Mention might have been made of peripheral nerve section in thrombo-angiitis and of scalenectomy in cervical rib. Such omissions are pardonable, however, in a small handbook. The book is unique in that it is the first attempt made by an English writer to present this subject in condensed and up-to-date form. No progressive practitioner should be without it.

THE SPLEEN AND RESISTANCE.

SPLENECTOMY as a therapeutic measure was for some time the subject of a good deal of discussion, though today its indications are narrowed down considerably. For example, the removal of the spleen in pernicious anæmia is now merely a matter of medical history, though in diseases such as chronic hæmolytic jaundice and thrombocytopenic purpura it is known to be a satisfactory method of treatment. However, the position is still by no means clear as to the true indications for this operation, nor is the physiology of the spleen in man yet on an absolutely firm basis, in spite of the volume of information available through clinical and experimental studies. In particular, the rôle of the spleen in regard to resistance to infection is not definitely established, and those interested in the subject will find a succinct but readable account in the 130 pages of the valuable monograph by David Perla and Jessie Marmorston.[1] These authors have summarized the literature well and their arrangement is logical and clear. Much of the work they cite is concerned with the experimental side of medicine, to which they have themselves made some interesting contributions; some of the conclusions may be applied to man, but, as they freely admit, this cannot always be done. The care that is necessary is shown by the error which arose in the experiments of certain workers who overlooked the fact that their experimental animals suffered from a latent Bartonella infection, which vitiated their observations after splenectomy and thus confused much other work done on splenic function. Perla and Marmorston point out, however, that this infection in rats may be turned to good account, as in their own work, wherein they established that the possession of a small remnant of spleen protected the animal against the common Bartonella anæmia. Their account of the inquiry into the cellular location of the protective function of the spleen is interesting; evidence points to the importance of the macrophage tissue of the splenic pulp in this respect. They also present a summary of the position with regard to the possibility of a splenic hormone, a subject that has even been explored clinically, though on very slender grounds. It is curious how a detailed inquiry into a particular problem such as this exposes the necessity for further study of the normal physiology. Perla and Marmorston doubt whether the spleen is concerned in the metabolism of iron, but consider that it is essential in the utilization of copper. Many such interesting topics are briefly discussed in this book. It is not a treatise, but rather a brochure which sets out fairly and briefly the important observations made to date on its subject, with a short discussion of the more interesting problems. Those who are interested in the physiology and pathology of the spleen should find this book most informative, and for those who are inclined to dip deeper than a mere skimming of the cream of the research worker, there is an extensive bibliography.

[1] "The Spleen and Resistance", by D. Perla, M.D., and J. Marmorston, M.D., with a foreword by D. Marine, M.D.; 1935. London: Baillière, Tindall and Cox. Royal 8vo, pp. 181. Price: 9s. net.

A RADIOLOGICAL TEXT-BOOK.

"WHO sups with the devil, needs a long spoon", says an old proverb, and in like manner he who would bandy criticism and appreciation with Dr. Alban Köhler in the matter of his famous work, "Röntgenology", needs a deep fund of sound radiological knowledge such as is vouchsafed to Dr. Köhler. His book is unique in its sphere and its comprehensive thoroughness has caused it to be regarded as a work which brooks no attack and needs no commendation. To such a radiological Johnson we can only play Boswell, for the monumental immensity of his detailed achievement, released and fixed in the printed word, stuns any critical inclinations we may possess and submerges them in a genuine admiration for his colossal scholarship.[1]

The wise and voluminous minutiæ of X ray interpretation in this book do not concern the familiar landmarks of established disease, on which many could wax eloquent, but rather confine themselves to a new charting of that nebulous and little known borderland where the normal fades away and the abnormal makes its first insidious beginnings. The discussion is limited to the radiological detection of incipient disease and the author deliberately excludes all those developed conditions so beloved of textbooks wherein the plainness of the diagnosis points the poorness of the outlook and the difficulty of treatment. No other X ray work performs this useful and unique function. Of necessity, the anatomical X ray variations, which are often wrongly considered pathological, are scrupulously described. Every minor shading or tiny crenation of outline which might be a source of confusion is indicated and classified.

Though the author furnishes us with an apotheosis of the X ray observation, his sane balance and judgement place him far above any undue emphasis upon the X ray method. In the very forefront of his pages he admonishes both clinician and radiologist in precise terms, affording us that rare yet elevating spectacle, the correctly orientated medical specialist. He writes:

> In no single instance can the Roentgen findings be regarded as absolutely authoritative. With every statement one should bear in mind the proviso: "Provided the anamnesis and the clinical findings favour, or at least do not oppose."

St. Thomas Aquinas, when asked in what manner one may best become learned, replied: "Read one book"; and assuredly here is the one particular book which may be recommended as containing all the foundations for a sound radiological training. Every radiologist should possess a copy.

This, the second English edition, has all the excellence of its predecessor, with the addition of many new facts recently brought to light in the English and American literature, and some new illustrations. Dr. Turnbull deserves our thanks for his capable and readable translation.

[1] "Röntgenology: The Borderlands of the Normal and Early Pathological in the Skiagram", by A. Köhler; Second English Edition, translated by A. Turnbull, M.A., B.Sc., M.B., Ch.B.; 1935. London: Baillière, Tindall and Cox. Imperial 8vo, pp. 698, with 400 illustrations. Price: 50s. net.

The Medical Journal of Australia

SATURDAY, NOVEMBER 21, 1936.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

THE QUEENSLAND MEDICAL SCHOOL.

UNTIL October 1, 1936, more than fifty years had elapsed since an Australian medical school was founded; and for this, if for no other reason, the inauguration of the Faculty of Medicine in the University of Queensland, recorded in this issue, must be regarded as an occasion of great consequence. The school is a mark of progress, not only of medicine in Queensland, but of the State itself. If it has been conceived in the right spirit, if those who guide it are understanding and high-minded, if quality in either endeavour or undergraduate students is not made to subserve quantity, followers of medicine in Queensland will in the years to come be proud to claim it as their home of learning, and Queensland will be thankful for the step that its Government has taken.

Professor Wilkinson did well in his inaugural address to take his audience back to the early years of medical history, to show that the motives that actuated the masters of old are those of today, to point out that humanity, a love of man for his brother man, is and always has been the foundation on which medicine as a calling is built. The well-known quotation might be altered to read: Except those with a love of humanity build the house, they labour in vain that build it. To attain love of humanity Professor Wilkinson would have us devote ourselves more to the realm of the spirit. There is no gainsaying him. This theme has been pursued in these pages on more than one occasion, and emphasis has been laid on the need for cultivating a sense of values in all human undertakings. Professor Wilkinson further suggests that medical men, perhaps more than others in the community, can by their example and precept help to raise humanity to a higher level. With this most of those who know the peculiar work of the medical practitioner will agree. But those who walk in the high places of privilege and responsibility have need to watch their steps lest they fall. And according to the height so great will be the fall—as Francis Thompson writes: "Low they fall whose fall is from the sky." All those, therefore, who would talk of maintaining a high standard in the medical profession, whether they are within or without its ranks, must remember that no high standard is possible unless medical practitioners are men and women of truth, honour and high purpose.

To talk of the standard of the medical profession to the average person is to conjure up visions of intricate curricula and years of undergraduate study. The curriculum in medical education is, of course, of the utmost importance; and while uniformity in the medical schools of even the English-speaking world has not been reached, the courses of study in different places are, generally speaking, of equal length and cover much the same ground. The present usage has grown from the accumulated experience during many decades in world-famous centres of men of the highest intellectual attainment. Curricula are forever changing and will continue to change, because medical knowledge does not stand still and because medicine can never be an exact science. That such similarity exists in different centres is largely due to the

activities of the General Medical Council of Great Britain and to the reciprocity in medical registration that has been established between different countries. One of the ministers of the Queensland Government was understood recently to say in public that he cared little for reciprocity between Queensland and other centres of medical learning, and that Queensland medical graduates should serve Queensland. The minister in question probably forgot that reciprocity is one of the factors that safeguard the standard of teaching received by medical students. To allow students to graduate on a curriculum not recognized by the General Medical Council of Great Britain would be short-sighted and foolish and could not fail to react on the people of Queensland. The people of Queensland are surely just as entitled to be attended by adequately trained medical practitioners as are any other body of people. The minister's remark is to be regretted as likely to shake public confidence in the new school. The curriculum will, we understand, be acceptable from every point of view; it can be left with confidence in the hands of the members of the Faculty.

The inauguration of the Faculty of Medicine in Brisbane will have a stimulating influence on present-day medical thought and practice in Queensland. Medical practitioners in Brisbane will shortly have in their midst a band of students, than whom there are no keener critics. Criticism, especially from an inquiring mind, makes for care, accuracy and deliberation; and there is no medical community that would not reap benefit from an increase in all three.

Current Comment.

THE TREATMENT OF PNEUMONIA.

RUFUS COLE, an admitted authority on the subject, is the author of a recent paper on the treatment of pneumonia.[1] By the term acute lobar pneumonia he means any acute pneumococcal infection of the lungs; he admits that there are two forms of pneumonia existing as separate entities, but considers that pathologists with the affected tissues before them are frequently unable to say whether a lobar or a bronchopneumonic type of lesion is present. Cole considers these differentiations to be of little value so far as therapy is concerned.

Many physicians, before making the diagnosis of pneumonia, wait several days for signs of consolidation to become apparent. This delay is not only unnecessary, since the other signs and all the symptoms of pneumonia are usually clear-cut, but it also wastes valuable time before the commencement of treatment. The Neufeld method offers a prompt means of clinching the diagnosis and of determining the ætiological agent responsible. The sputum of a patient suspected of suffering from pneumonia is treated with rabbit-immune sera of various types. As an example, if the organisms are pneumococci of Type I, swelling of their capsules will occur with Type I serum, but with serum of no other types.

The efficiency of the serum treatment of pneumonia has been more and more widely demonstrated, the necessary qualifications being that the serum must be of suitable type and administered early in the course of the disease. This has been the experience of many English and Continental clinicians. Serum therapy was begun at the Hospital of the Rockefeller Institute twenty-two years ago, and Cole has watched its effects throughout the whole period. By animal experimentation the method had previously been found to be theoretically sound. Blake and Cecil, for instance, cured monkeys suffering from experimental pneumonia by the injection of homologous anti-pneumonic horse serum, and Goodner has proved that the rabbit, a much more susceptible subject than the monkey, may be successfully treated with immune serum seventy-two hours or more after the production of a pneumococcal infection. It may be one thing, however, to cure an animal of a disease artificially produced, and another to overcome the same disease in man by like methods of treatment. But, after careful observation extending over twenty-two years, Cole is convinced that if serum is used promptly enough and in sufficient quantity, curative effects may be obtained in cases of pneumonia due to Type I pneumococcus. The evidence is very much less convincing in cases in which the pneumococcus of Type II is the causative organism.

For twenty-two years, then, most patients at the Hospital of the Rockefeller Institute who, on admission, were found to be suffering from a Type I pneumonia were treated with serum. Exceptions to this general rule were made in the cases of (*a*) children, who very usually recover without the use of serum, (*b*) persons moribund on admission, and (*c*) patients who were discovered on admission to be recovering. Until 1934, whole serum in doses of 100 cubic centimetres was used in all cases, notwithstanding the fact that twenty-one years earlier Avery had isolated that fraction of the serum which contained the immune principle, and had laid down practical methods for the serum's concentration.

[1] *Annals of Internal Medicine*, July, 1936.

Now, in all methods of serum concentration a large but inevitable loss of immune substance takes place, and the process of concentration is in all circumstances very expensive. Moreover, at the outset accurate information about the serum's actual strength was not forthcoming, and the methods employed for standardization were variable and unreliable. It was said in the early days of this work that the concentration of the Type I serum so produced was twenty times that of the old whole serum and that good results would follow the use of a dosage of five cubic centimetres of the new product; Cole and his fellow workers soon discovered that these claims were impossible. At the present time they employ a concentrated serum obtained from the New York State Board of Health, in doses of from fifteen to thirty cubic centimetres, the maximum dose containing 90,000 units. The unpleasant, but harmless, serum sickness occurs in at least 50% of patients within a week or ten days after their admission to hospital, but febrile reactions, very common during the days when whole serum was used, are now much less frequent. Cole has treated 462 patients with Type I serum. Of these, 48 died—a mortality rate of 10·5%. The serum proved to be more effective the earlier it was injected. This is clearly shown by the fact that of patients so treated during the first three days of illness, only 4·8% died. Of those given serum after the fifth day of illness, 19·5% died.

The serum of Type II, like the sera prepared from the higher types of pneumococci, is uncertain in its effects. The results in certain instances have seemed hopeful, but a large amount of experimental work yet needs to be done before reliable conclusions may be drawn or the general use of these preparations be considered justifiable.

The death rate from Type I pneumonia in the United States of America is probably of the order of 25,000 *per annum*, a mortality twice that of typhoid fever in its worst days. Type I pneumonia should therefore, in Cole's opinion, be regarded as a specific infectious disease and treated strictly as such. The serum should be given at the first chance, in large amounts, and repeated at intervals of four hours until the patient's condition improves. To inject too little is more dangerous than to give too much. The danger of serious serum reaction is small, but serum sensitiveness can be guarded against in the usual way.

Trevor Thomas has within recent times treated 150 pneumonic patients with intramuscular injections of quinine. He makes the somewhat ambiguous statement that the drug had practically no effect upon the patients, but that it exerts a generally beneficial influence by shortening the length of the illness with a more rapid disappearance of chest signs. Quinine derivatives—optochin and others—are proven to exert curative effects upon mice infected with pneumococci, but, according to Cole, they are likely to produce amblyopia and other toxic phenomena in man, and he therefore condemns their use.

The exhibition of morphine is known to cause a slowing of the respiratory rate, and so a diminution in pulmonary ventilation and a decrease in the oxygen saturation of the arterial blood. When moist râles are numerous in the patient's chest the drug may cause anoxæmia. But on the whole these changes are not usually alarming, and in cases of pleurisy with the diminution of respiratory movement due to pain the giving of morphine may even result in an improved pulmonary ventilation.

The breathing of air containing added percentages of carbon dioxide has produced little beneficial result in pneumonia. R. Hilton has said that in the absence of respiratory failure the effects of the gas do not warrant its use. The Hospital of the Rockefeller Institute has instituted special chambers in which the oxygen content of the air may be regulated. The relief thus given to cyanosed patients is often remarkable. But the chambers are expensive, and the most modern oxygen tents are equally useful. In these one may maintain an atmosphere containing up to 50% of oxygen. Cole's patients are kept inside the chambers until all signs of acute intoxication have passed, when a return to normal atmospheric conditions is very gradually made. The advocates of the use of oxygen in pneumonia are numerous and enthusiastic; it remains to be said that Cole's mortality rate among patients not treated with serum has not fallen since the oxygen therapy was commenced.

In pneumonia (as in high intestinal obstruction) there is a diminished excretion of chlorides and a lowering of the chloride content of the blood plasma. The administration of saline solutions to patients with obstruction has been found to lessen intoxication and to lengthen life. By a somewhat loose analogy it has been maintained that such solutions may be of value in the treatment of pneumonia. They have been shown to reduce the abdominal distension so common in the disease; they have also, in moderate concentrations, resulted in the production of pulmonary œdema. It does not follow that the alteration of physiological conditions found in disease will inevitably produce a favourable effect upon the patient. We once administered antipyretic drugs to reduce fever; today we produce fever artificially to treat various infective diseases. The administration of sodium chloride to patients with pneumonia must be regarded as an empirical proceeding.

The balance of evidence is that digitalis is quite harmless in cases of pneumonia, but that it has little influence on the mortality. It may be usefully employed in conditions, notably in auricular fibrillation, in which it is ordinarily indicated. The "heart stimulants" once so popular—caffeine, camphorated oil, strychnine—survive only in the memory.

The value of diathermy is not settled. In dogs with pneumonia it is possible to increase the local heat of the lungs by two or three degrees Fahrenheit. But by means of thermocouples

enclosed in a Luer needle, the latter being inserted directly into the lung, it was impossible to discover any rise of temperature in each of three patients exposed to the diathermy current. The value of the method awaits substantial confirmation. There is no proof that the heating of a pneumonic lung is necessarily beneficial to the lung or the patient.

The treatment of pneumonia by artificial pneumothorax was introduced as early as 1919, but thence onwards was not greatly in vogue until 1934. It was considered to be of value as resting the lung and abolishing the pain of pleurisy. Lieberman and Leopold have done interesting experimental work on the subject. They introduced pneumococci suspended in starch paste into the bronchi of dogs, so producing an experimental pneumonia. Eighteen dogs were treated by artificial pneumothorax; three of these died and fifteen recovered. Of twenty-one dogs not so treated, eight recovered and thirteen died. As regards the application of the method to man, the clinical material so far available deals with small numbers of cases. X ray examinations have shown great variations in the amounts of air necessary to produce collapse in different patients. We cannot yet be sure whether the treatment has had a favourable effect upon the course of the disease. Nothing so far indicates that it does harm, but the production of the pneumothorax needs skill and care. Rupture of the lung, with high intrapleural pressure and subcutaneous emphysema, has been known to occur. Of this, as of other therapeutic measures noted above, we can only say that it is worthy of further trial.

THE SUBSCURVY STATE IN RELATION TO PEPTIC ULCERATION.

DURING a period of sixteen years fifty-one patients died at Saint Bartholomew's Hospital following operations upon the stomach. In analysing the causes of these deaths, Reginald Payne found that general peritonitis was responsible in sixteen instances and that in twelve of these the peritonitis had followed bacterial leakage at the site of anastomosis. Further, along the lines of suture no fibrinous response indicative of healing was to be found. Payne was inclined to explain this fact as due to the severe anæmia from which the patients suffered; H. E. Archer and George Graham[1] think otherwise.

It happened that these two workers had just completed some experimental work upon the excretion of ascorbic acid; and they were well aware that wounds in scorbutic patients are slow and uncertain in healing. Thus they conceived the hypothesis that the patients under review, all of whom had suffered from gastric or duodenal ulceration, might well have been reduced by long ill-health and strict diet to the subscurvy state. Archer and Graham therefore determined to measure the degree of saturation by ascorbic acid, both in healthy controls and in patients with peptic ulceration. For this purpose they employed Harris and Ray's modification of Tillman's method. The collected evidence indicates that many patients who have undergone rigid dietetic treatment for gastric and duodenal ulcers manifest a great lack of ascorbic acid. McCarrison in 1921 (the authors state) produced a prescorbutic condition in nine guinea-pigs by feeding them with crushed oats and autoclaved milk. At autopsy these guinea-pigs were found in all cases to be the subjects of duodenal congestion. Hæmorrhagic infiltration of the intestinal walls, ecchymoses of the mucous membranes and punched-out areas extending even to the peritoneal coats of the small bowel and the stomach were also discovered. McCarrison has also produced gastric ulcers in albino rats. He achieved this by feeding the animals on the diet eaten by the poorest natives of Madras, when 11% of the rats developed ulceration. A diet similar to that of the poor of Travancore caused gastric ulceration in 22% of a second batch of rats. In 1929 Magee and others, by the use of a diet lacking in all vitamins and most inorganic factors, produced pyloric ulcers in 22% of guinea-pigs so fed. Perhaps the most ingenious of such experiments were those carried out in 1933 by Smith and McConkey. Of fifteen guinea-pigs, one group of five was given a diet in every way satisfactory. Groups II and III, each also comprising five animals, were fed upon a diet of rolled oats and autoclaved milk, to which was added 0·3 cubic centimetre of cod liver oil as a corrective for the deficiency of vitamins *A* and *D*. After twenty-five days all three groups were subjected to operation. In each guinea-pig a hole was bored in the stomach and the duodenum was scarified with a dental burr. The hole in the stomach was surrounded by a purse-string suture and the abdomen was closed. Eighteen days later the members of Group I, all seemingly healthy, were killed. The abdominal wounds were well healed, and in every case the stomach and duodenum appeared normal. The second group was given a daily addition of ten cubic centimetres of canned tomato juice, and the animals were killed at the end of three weeks. Again all wounds were found to have healed completely. The guinea-pigs of Group III were all dead fourteen days after operation. There was no attempt at healing in the skin incisions. Two of the animals had developed ulcers at the site of the hole bored in the stomach, and four of the total of five exhibited ulceration of the duodenum. A consideration of these various experiments strongly suggests that rats and guinea-pigs in the subscurvy state are likely subjects of gastric and duodenal ulceration.

Certain workers at Cambridge are quoted by Archer and Graham as advocating the addition of maintenance doses of ascorbic acid to the diet of patients suffering from peptic ulceration. These

[1] *The Lancet*, August 15, 1936.

writers regard thirteen milligrammes as the minimum standard excretion of the acid. In a group of 74 hospital patients, 84% excreted less than this amount. Nineteen of these patients, all the subjects of gastric or duodenal ulceration, showed an average excretion of 8·7 milligrammes. Since the diet of milk, bread and butter and eggs so frequently prescribed for patients with ulceration has a low ascorbic acid content, Archer and Graham recommend that the patients should be first saturated with the acid by the administration of doses of one thousand milligrammes on three successive days; the acid is thereafter given daily in maintenance doses of 36 milligrammes, and this amount is contained in two ounces of orange juice. In cases of pyloric obstruction the acid requires to be given intravenously.

Robert Platt,[1] by a coincidence, points out in the same journal as that containing the article of Archer and Graham, that adult scurvy may occur as the result of the usual dietetic treatment of peptic ulcers, and he supplies clinical notes to prove his contention. Of the patients, one was a woman of forty who was "dieting" herself and who had eaten no fruit or fresh vegetables for three years. Pratt's three remaining patients had all undergone the routine treatment for peptic ulceration over long periods. The condition of all these patients rapidly improved; they lost all signs and symptoms of scurvy as soon as fitting treatment was instituted. Not unnaturally, considering the rarity of scurvy at the present day, none of the attending physicians had made a correct diagnosis.

AUTOGENOUS SERUM THERAPY OF NARCOTIC ADDICTION.

DURING recent years it has been believed by a number of authorities that in addiction to narcotics toxic changes are brought about in the tissues of the body and that the tissues need some special antidotal method of treatment if withdrawal is to be quickly and safely accomplished. The former premise will be accepted by most observers, even if it is not always believed that the toxic changes are other than those of a profoundly disordered nutrition; but the latter is more controversial, and therapeutic methods based upon it do not seem to have been generally adopted. Much was made of "Narcosan", a synthetic specific antidote, a few years ago, but fuller experience has not confirmed its place in the pharmacopœias of the world. From Java has come another suggestion, based upon work by Modinos, and Donald Black has just published the results of a series of cases treated by this method.[2] Assuming that the serum of addicts contains a toxic substance which may exert an antidotal power on injection into the body, Modinos reported a notable lessening of the withdrawal symptoms in cases of opium, morphine and heroin addiction by the parenteral use of autogenous serum. Black, writing from Manchuria, employed this method in fifteen cases; his patients were Manchurians and Koreans, all addicts of opium or its derivatives. It is interesting to note that nine of these patients took morphine or heroin by hypodermic injection; this replacement of the opium pipe by the hypodermic syringe has been pointed out by other writers with experience of conditions in China. The serum for injection was obtained by blistering, and the amount injected was usually five to six cubic centimetres, though as much as ten cubic centimetres have been administered in a single dose. The number of injections varied from two to four, given every day or two, and reactions were found to be slight. Withdrawal of the narcotic was rapid, though in most cases the drug was not cut off immediately, and Black thinks that the serum treatment was of definite value in limiting both the time required for discontinuance of the drug and the severity of the symptoms arising therefrom. The references to literature quoted in this article are all from the Orient, where this special experience is more easily obtained than in other parts of the world; but it must be remembered that narcotic addiction is a problem which may at any time arise in any medical practice. It is only a few years since a special committee reported on drug addiction in New York, and this is only one evidence of the great international interest that has been taken in the subject. Whether the autoserum treatment will be proved to be of positive value cannot yet be said, but at least it is simple and harmless. The psychological effect of such a procedure is always to be reckoned with, especially when we remember that all the patients in this series submitted themselves voluntarily for treatment. It must be admitted, too, that no adequate follow-up of these patients could be made, so the end results are not known. This is important, for the addict is by no means immune from recurrence, since within his personality is the seed from which the heat of trial and circumstance may again germinate the noxious weed of further outbreaks. But even if so simple a treatment could alone help him through a crisis it would be worth while.

In a special article in the same journal C. P. Brown and C. H. L. Sharman[1] deal with the control of narcotics, and in this they point out the real menace that may exist in the soft-hearted physician. We all know the patients they describe, whose plausible tale leads the well-meaning practitioner to prescribe a narcotic. He is suffering from withdrawal symptoms, or he has an acute infection, or is in great pain, or he will enter an institution next week: so runs his story, helping to add one more to the hopeless list of addicts being "treated" by the ambulatory method. We may or may not use the autogenous serum of such a patient in his treatment, but we must not help, even innocently, in confirming his addiction.

[1] *The Lancet*, August 15, 1936.
[2] *The Canadian Medical Association Journal*, August, 1936.

[1] *Ibidem.*

Abstracts from Current Medical Literature.

MORBID ANATOMY.

Gastric Ulcer Following Vagotomy in Animals.

J. M. BEAZELL AND A. C. IVY (*Archives of Pathology*, August, 1936) refer to the observations of a number of investigators of the occurrence of chronic gastric ulcer in the rabbit after bilateral subdiaphragmatic vagotomy. They have been interested in ascertaining the part that roughage plays in the genesis of ulcers of this type. Twenty-nine animals that survived the operation received a rough diet and twelve contracted gastric ulcer. Nineteen animals were given a soft, non-residue diet after operation, and only three had gastric ulcer. The authors conclude that mechanical trauma in association with gastric stasis is a factor, but not the sole factor, in the genesis of ulcers of this type. The other factor is unknown.

The Thymus and Adrenals in Injuries and Intoxications.

HANS SELYE (*The British Journal of Experimental Pathology*, June, 1936) has undertaken investigations to attempt to clarify some of the relations between the thymus, adrenal and liver after traumatic injuries and during various intoxications. He describes in the rat a syndrome consisting of rapid involution of the thymus, formation of a pleural transudate and adrenal enlargement with loss of cortical lipoids, and produced by certain operative injuries, drugs, exposure to low temperature and stimuli merely causing nervous excitement. Among all the stimuli used by the author none was found which would seriously damage the animal without causing rapid thymus involution and adrenal enlargement. Involution produced in this way is more pronounced than that which follows withdrawal of all food and water, and is therefore not due to failure of the animal to eat. In animals which have been subjected to adrenalectomy, all the injuries and drugs that normally cause thymus involution are without effect on the size of the thymus. In animals subjected to removal of the hypophysis these injuries and drugs have some effect, but the effect is much less than in normal animals. The author describes a method for the isolated removal of the adrenal medulla with a suction pump; with this method the cortex is not seriously injured. When the medullary tissue is removed from the adrenals of rats and the cortex remains active, the thymus shows little, if any, tendency to involution. The inability of the thymus to undergo involution in animals that have been subjected to adrenalectomy is not restored by sodium chloride, by cortin in such doses as the author used, or by adrenaline treatment. Sodium chloride restores the otherwise low resistance to toxic doses of various drugs of animals that have had their adrenals removed if they receive food. It is quite inactive in the fasting animal. The changes caused by a drug when it is given for the first time will subside later in spite of the continued administration of the drug. The author states that it appears that the syndrome he has described, with the accompanying rapid loss of weight, represents an "alarm reaction" which enables the organism to meet critical situations more efficiently. He calls attention to the possible connexions between these experimental findings and the clinical observations of drug habituation on the one hand and non-specific fever and protein therapy on the other.

Osseous Metastasis of Carcinoma of the Prostate.

S. WARREN, P. N. HARRIS AND R. C. GRAVES (*Archives of Pathology*, August, 1936) have studied seven cases of carcinoma of the prostate and one of carcinoma of the bladder by means of large sections through the soft tissues and adjacent bones of the pelvis. In carcinoma of the prostate involvement of the perineural lymphatics was a constant feature; it was absent in carcinoma of the bladder. Owing to the abundant nerve supply in and about the prostate, opportunity for involvement of perineural lymphatics is great. Hæmatogenous metastasis may occur in carcinoma of the prostate; but the chief factors determining the preponderance of metastatic lesions in the pelvis and in the lower regions of the spine are the distribution of the nerves and the conduction of the tumour cells along the perineural lymphatic spaces into close contact with the bone. Invasion of the lymphatic channels is frequent and metastasis by the usual lymphatic route is an important factor in the spread of the disease, although probably not important in determining the localization of the bony metastases.

Acute Post-Operative Necrosis of the Liver.

J. E. SUTTON, JUNIOR (*The American Journal of the Medical Sciences*, August, 1936) discusses the so-called high temperature liver death syndrome. This condition, first described by Heyd, is characterized by sudden, rapid and progressive rise in temperature during the first day after surgical operation, falling blood pressure, rapid pulse, circulatory collapse, coma and death. The patient's temperature rises to 107° or 109° F. within thirty-six to forty-eight hours. *Post mortem* examination reveals passive congestion, softening, diffuse disorganization of the liver cords with widespread areas of focal necrosis of the liver. The author refers to the work of Henschen, who thought that the condition might be due to ligation of the hepatic artery during the course of the operation. The author states that in dissections of 29 unselected cadavers he found that in 16 the hepatic artery was in such close relationship with the cystic duct that it might easily have been injured during a cholecystectomy. To determine the clinical course and the changes following ligation of the hepatic arteries he operated upon fourteen dogs. Cholecystectomy was performed and in addition the hepatic artery was isolated. The artery was ligated and in certain instances smaller vessels were also clamped. In six of the fourteen dogs death followed a clinical course that closely resembled that seen in the human subject. In eight dogs which did not die there was adequate collateral circulation to all the lobes of the liver and no hepatic necrosis occurred. The author concludes that the similarity in the clinical course and in the pathological changes in the liver in man and dog makes it reasonable to apply a pathologically descriptive phrase and to call the condition acute post-operative necrosis of the liver.

Experimental Radium Carcinogenesis.

IN 1932 J. M. Ross described a case in which a radium needle had remained embedded in the interventricular septum of the heart for three years. *Post mortem* a malignant hæmangioma was found in the liver immediately subjacent to the needle. An abstract of Ross's article will be found in THE MEDICAL JOURNAL OF AUSTRALIA of April 15, 1933, at page 472. The same author now reports investigations into the effect of prolonged irradiation with screened radium (*The Journal of Pathology and Bacteriology*, September, 1936). She states that with one exception neoplasms have been produced experimentally by radio-active substances only when unscreened radium *et cetera* was used. In an attempt to produce tumours by the prolonged action of γ rays she has used radium-filled platinum tubes, has implanted them in the tissues of rabbits and has left them *in situ*, at the same time keeping the animals under observation. Nine of thirteen healthy young rabbits survived operation and were alive and well one year later. In six of the nine animals a newgrowth appeared, and in each instance the primary tumour was in immediate relationship with the radium tube. In one case the tumour was an osteogenic sarcoma, the radium tube having been left in periosteum. Two tumours were spindle-celled sarcomata, the tubes having been left in connective tissue. One tumour was a myxomatous sarcoma, the tube having been left in the subcutaneous tissue. Two tumours were squamous-celled carcinomata, the tubes having been left in the dermis. The author concludes that the tumours were caused by γ rays of weak intensity but of prolonged duration, and that the type of growth depended on the nature of the tissue in which the

tube was embedded. The tubes were of one centimetre length, filtration was 0·55 millimetre of platinum, and the content was 0·1 milligramme of radium.

MORPHOLOGY.

Wound Healing in Vitro.

F. H. BENTLEY (*Journal of Anatomy*, July, 1936) records his observations on wound healing *in vitro* as manifested in the interaction of dermis and epidermis in cutaneous wound repair. The material used was obtained from full-term rat embryos, and the epidermis was cultivated in contact with the dermis so that the changes produced in the connective tissue under the influence of the growing epithelium could be detected. He found that epithelial growth influences profoundly the activity, rate of growth and arrangement of the dermal connective tissue, finally resulting in the formation of a dense mass of collagen fibrils orientated at right angles to the epithelium. These changes in the connective tissue are found to depend upon the presence of actively growing epidermal cells. The new structure is lost when the basement membrane reappears beneath the new epithelium, and this occurs first at the margin and last at the centre of the wound. The reaction is not due to local conditions inherent in the experiment, but appears to be specific to epidermis and is not produced in response to other growing epithelia. It is suggested that the epidermis may produce the reaction in the dermis by mechanical, physical or chemical means. The influence of diffusion currents in the production of the lines of growth in the dermis can be discounted. The difference in growth rate between epidermis and dermis does not account for the changes produced in the dermis by the growing epithelium. There is presumptive evidence that the organizing effects are due to a chemical substance formed in the organizer which diffuses into the neighbouring cells and induces in them their new activity. An investigation into the possibility of a chemical basis for this interaction *in vitro* was indefinite and stressed the need for further research.

The Intraneural Plexus.

THE significance of intraneural plexus formation is described by J. E. A. O'Connell (*Journal of Anatomy*, July, 1936). True plexus formation does not occur in pure sensory nerves. It is suggested that, unless there be some rearrangement of fibres within the ganglion itself, the nerve fibres in the central root are grouped in the same manner as in the peripheral portion of the nerve. The same is true of the sensory fibres in mixed nerves, so that such a plexus formation as occurs in them cannot be due to the regrouping of afferent fibres. Intraneural plexus formation has been shown to occur in all peripheral motor nerves. In the proximal part of a peripheral nerve there occurs a coarse plexus for the grouping together of afferent and efferent fibres. Then, following the union of this trunk with a trunk or trunks from other segments, there occurs the complex series of intercommunications resulting in the production of the requisite segmental groupings for the collateral intraneural branches. Then within the larger fibre groups occur finer plexuses of smaller fibre groups, which it is thought may be concerned with the association of muscle afferent and efferent fibres. The practical significance of the problem is discussed in relation to the treatment of trigeminal neuralgia and to certain results of partial nerve division.

Thalamic Connexions of the Temporal Lobe.

W. E. LE GROS CLARKE (*Journal of Anatomy*, July, 1936) gives the results of his studies on secondary cell degeneration in the thalamus following local cortical ablations in the temporal lobe in the macaque monkey. In each of five macaque monkeys a small block of cortex was removed from the temporal lobe and the animals were allowed to survive for three to five months, after which they were killed and their brains examined. The lesions were relatively superficial, being practically limited to the cortex and subjacent white matter. The experiments showed that the temporal lobe receives thalamo-cortical fibres from the medial geniculate body and the pulvinar. He concludes that the projection area of the medial geniculate body is limited to a small area of the cortex, probably not more than 15 millimetres in length, in the superior temporal gyrus situated immediately below the inferior end of the central sulcus. The large cells of the parageniculate nucleus remained unaffected and the author surmises that they are unconnected with the cortex of the superior temporal gyrus, and on this and other grounds he suggests that the parageniculate nucleus is to be regarded not as a part of the medial geniculate body proper, but as an intralaminar nucleus. Whether different sectors of the medial geniculate body project onto corresponding different areas of the auditory cortex could not be detected. The position of the cortical lesions in his experiments showed that the pulvinar projects, in part at least, onto an area immediately adjacent to and contiguous with the auditory area. The absence of any degeneration in the thalamus following lesions placed more rostrally indicates that the projection area of the pulvinar is probably immediately caudal to the auditory cortex. This receptive region extends back from the auditory area along the walls and lips of the Sylvian sulcus as far as its caudal extremity. The author also makes the incidental observation that the projection of the *pars arcuata* of the *nucleus ventralis* and of the dorsomedial nucleus on the motor cortex and *area frontalis* respectively is of a very precise and localized nature. He concludes with the final observation that it is rather remarkable that a very great proportion of the cortex of the temporal lobe apparently receives no fibres from the thalamus.

Pupillary Light Reflex.

H. W. MAGOUN, D. ATLAS, W. K. HARE AND S. W. RANSON (*Brain*, Volume LIX, Part 2, 1936) report the results of an investigation into the afferent path of the pupillary light reflex in the rhesus monkey as revealed by electrical stimulation. They find that the light reflex fibres traverse the portion of the optic tract which runs medial to the lateral geniculate body to reach the brachium of the superior colliculus. The pathway passes on to the pretectal region, between mid-brain and thalamus, without establishing any direct relationship with the superior colliculus. From the pretectal region the pathway descends around the rostral end of the central grey matter of the aqueduct to the oculomotor nuclei. Central crossings in the path were found to occur both in the posterior commissure and ventral to the aqueduct in the immediate vicinity of the oculomotor nuclei. These results are essentially identical with those previously established for the cat.

Posterior Cerebral Artery.

D. J. WILLIAMS (*Brain*, Volume LIX, Part 2, 1936) has demonstrated by staining and dissection that the perivascular innervation of the posterior cerebral artery is derived from the carotid sympathetic plexus and not from that surrounding the basilar artery. On the axiom that the nerve supply of any tissue follows that tissue from its ontogenetic point of origin, he deduces that the posterior cerebral artery is morphologically a branch of the internal carotid artery. He thereby arrives at the same conclusions as those previously established, first by a study of the comparative anatomy of the vessel, secondly by variations from the normal picture, thirdly by the condition seen in the early fœtus.

Retina in Marsupials.

KEVIN O'DAY (*Journal of Anatomy*, July, 1936) contributes a preliminary note on the presence of double cones and oil droplets in the retina of marsupials. The eyes of *Dasyurus viverrinus* and *Pseudochirus laniginosus* were examined. His observations confirm the work of Hoffman with regard to the presence of oil droplets in the cones of marsupials. The examination also revealed the presence of double cones, an observation which had not been previously recorded in marsupials.

University Intelligence.

THE UNIVERSITY OF QUEENSLAND.

INAUGURATION OF THE FACULTY OF MEDICINE.

THE Faculty of Medicine of the University of Queensland was inaugurated in Brisbane on October 1, 1936, and on following days.

The first ceremony was held at the Teachers' Conference Hall, Elizabeth Street, Brisbane, on October 1, 1936, Dr. W. N. Robertson, C.M.G., C.B.E., the Vice-Chancellor, in the chair. Among those present were the Honourable W. Forgan Smith, Premier of Queensland, and the Honourable E. M. Hanlon, Minister for Health and Home Affairs.

The Vice-Chancellor, Dr. W. N. Robertson, said that the inauguration of the Faculty of Medicine was a great event in the history of the institution and of Queensland. He was glad to see among them Sir David Hardie, who had been so prominent in medical circles, and in the university itself, in advocating the establishment of the school, even twenty-five years ago. A great debt of gratitude was due to the Premier and his colleagues for having come forward so nobly to assist in the foundation of the Faculty.

The Premier, the Honourable W. Forgan Smith, in reply, said that the Government, in the interest it had taken in this Faculty, was acting only on what it knew was in the public interest of the people of Queensland. Dr. Robertson and many others had spoken for years about its establishment, and it was largely due to the fact that they had never despaired of attaining their objective that it was now accomplished.

Queensland had a wonderful future. There could be no doubt that it was the queen of the States, and, guided properly by intelligent men and women, there was nothing of which the State was not capable. For a community, the building up of a university and a faculty such as this was of supreme importance. They lived in a democracy and had attained, in theory at least, the highest form of government possible. They enjoyed many advantages, which was a right, but a right carried a duty, and that was to be worthy of the pioneers of this country and of the peoples from whom they had sprung. Therefore they must be pioneers in their own generation.

About twenty-five years ago the University of Queensland was established on a comparatively unambitious scale, but those associated with the institution had any amount of faith in the future of the State and its people, and they knew it would grow in importance, influence and utility.

He regarded it as a privilege to have been associated with the founding of several faculties. The first was the Faculty of Agriculture, followed by the Faculty of Law, and now the Faculties of Medicine and Veterinary Science. The establishment of these faculties must be of advantage to the people. There were men and women in this State capable of holding their own with those of any other nation, and consequently they believed Queensland should educate her own people for the purposes for which they were required in the State. On them also rested the responsibility of making a success of the White Australia policy, and that presented problems peculiar to Queensland. These, he believed, could best be solved by Queenslanders.

He felt very proud of the fact that Queensland had established a faculty of medicine, and he was sure it would prove of service to the people of the State and that it would aid its development along good, sound and noble lines. This was only the beginning of their activities. There was the university itself, that had to be built. He hoped that in a short time—indeed during the present financial year—the construction of the building would be commenced, and that at no distant date they would be having a suitable function for the opening of that new building.

The Honourable E. M. Hanlon, Minister for Health and Home Affairs, said the Government could be proud that they had brought a complete university into practical politics. In the course of his work as Minister for Health he had realized that one of the handicaps in the control of health in Queensland was that the State was not producing its own doctors. As a first step towards the achievement of that objective, a chair of dentistry at the university had been established, thus leading up to the inauguration of the Faculty of Medicine.

One thing that had to be kept in mind, particularly by the students of the university, was that the new institution was going to cost an immense amount of money, not only in construction, but also in maintenance. It was to be hoped that the people of Queensland would realize the great dividend in health and services they would receive from the university.

After announcing that the construction of the new medical school would begin almost immediately, Mr. Hanlon said the building would be well in keeping with the purpose for which it was being erected. It would not only be adequate, but would be of a dignified character.

Queensland had problems different from the southern States, and they had to see that these problems were met. The responsibility was on the people of the State. It was recognized that in north Queensland they had a land capable of carrying a great population. At present there existed the danger of disease, and the people who would be expected to develop the north must be assured that those diseases were going to be conquered. He believed that the new faculty would be the means by which many thousands of people would eventually be settled in those areas.

Inaugural Address.

The Vice-Chancellor, in introducing Professor H. J. Wilkinson, the Dean, said they were fortunate in securing his services. Professor Wilkinson had relinquished a professorship in Adelaide to undertake the important task of assisting to establish the medical school in Queensland. He had had considerable experience in teaching and in administrative work, and had visited and worked in several world-famous schools in Europe and America.

Professor Wilkinson then delivered his address (see page 699).

Professor E. J. Goddard, in moving the vote of thanks, expressed the university's appreciation to the Premier for the great part he had played in university development and in the cause of higher education. He also thanked the Minister for Health for the excellent work he had performed in the establishment of the new faculty.

Opening of the Sir William MacGregor School of Physiology.

The Sir William MacGregor School of Physiology was opened on October 2, 1936. Dr. W. N. Robertson, Vice-Chancellor, occupied the chair.

The Honourable F. A. Cooper, Minister for Public Instruction, in unveiling the name-plate of the Sir William MacGregor School of Physiology, dedicated the institution to the particular benefit of the State and of the Commonwealth in general. Mr. Cooper said that times had changed and education had entered upon a broader road. It would continue to be broadened as circumstances warranted. In education there was still the phase of personal touch, but added to that now was community need. People today were living a community life. This was followed by specialization, concerning which some people had been afraid, but, so far as Mr. Cooper could see, specialization had been all to the good as far as the community and industry were concerned.

The medical school had been established for the benefit of the individual, the community, and to aid industry. But, after all, the ideal was to build a great nation, and unless they were a healthy people they could not become a great people. The idea of the school would be to pave the way for people adequately to occupy this country. Finally, Mr. Cooper expressed the hope that the new school would do a far-reaching work for the State, for the Commonwealth and for humanity.

The Vice-Chancellor, Dr. Robertson, in introducing Professor D. H. K. Lee, said he was pleased that a Queenslander had been appointed the first professor of physiology in the university. Professor Lee had an excellent academic record. He was a graduate in Science of the University of Queensland, and had gone on to Sydney to study medicine, where he graduated with honours in 1929. Since graduation he had studied for two years in London with one of the leading British physiologists.

Professor Lee then delivered his address (see page 707).

Dr. E. S. Meyers, in moving a vote of thanks to Mr. Cooper, said if proof were needed of the value of the Department of Public Instruction, it was only necessary to point to the men it produced and attracted. One of them was Mr. T. L. Jones, Chairman of the Brisbane and South Coast Hospitals Board; and in Professor Lee Queensland had a product of its own scientific system; and there was nothing wrong with his scientific outlook, as one could judge from the address he had just delivered.

Inaugural Dinner.

The inaugural dinner was held at the Belle Vue Hotel, Brisbane, on October 3, 1936. The Honourable Sir James Blair, K.C.M.G., Chancellor of the University, occupied the chair.

In proposing the toast of the Government, Mr. T. L. Jones, Chairman of the Brisbane and South Coast Hospitals Board, expressed appreciation of the fact that the Premier, Mr. Forgan Smith, and those associated with him in the Government had evinced so great an interest in higher education, evidence of which was amply demonstrated in the sympathetic hearing which they gave to requests from the university for financial assistance for its development, and particularly in respect to the medical school, the establishment of which was now being celebrated. The University of Queensland was a "people's university" and therefore carried no small obligation to render service to those by whom it had been so freely endowed; in other words, to the citizens of this State. The world was beset by perhaps the most serious set of problems with which humanity had ever been faced, and only by the use of reason in place of prejudice, calm judgement instead of passion, could the difficulties be overcome. They could look only to education in its higher sense to produce this desirable mental attitude towards the problems of life.

In his reply the Premier of Queensland, the Honourable W. Forgan Smith, said that it was proper that they should ask themselves whether they were providing education to fit men and women for the battle of life, to compete with their fellows, or were providing a system for building up a nation of men and women of sound character, to enable them to carry on the various activities of society and be equipped to give greater service to their fellows. If men were given certain advantages and equipment to fit them for the battle of life, that was no reason why they should be used entirely for purposes of their own aggrandisement or for the exploitation of their fellows.

Australians were proud of the democracy in which they lived, but that form of government could only be a success in which the standard of intelligence of the people was high. Provided people were educated, the standard of government must improve. Everything possible to improve the standard of education was being done by the Queensland Government, not so that men could have clean collar jobs or need not make their hands callous, but so that they would have citizens playing their part in organized society in a way that they would contribute more to the sum total of human happiness.

Man's material requirements were few, and his spiritual and intellectual needs many, but his material wants had first of all to be satisfied. If he were starved in body, his outlook was likely to be different from that of the man who had the material needs of life, and on that account the Government regarded this as the first essential.

In proposing the toast of the University of Queensland, His Grace Archbishop Duhig said that it was frequently those who in their early youth were deprived of the advantages of higher education who valued education most and who were prepared to do most for it. That was the experience of the late Dr. Kidston, who took such an important part in the founding of the University of Queensland, and it was a happy circumstance that a fellow countryman of his, occupying the same exalted position as he did, should today be putting the crown on that great work.

Professor H. Alcock, President of the Board of Faculties, in his reply referred to universities as factories of happiness, not only for those they directly benefited, but also for those whose difficulties their products helped to remove.

The Honourable E. M. Hanlon, Minister for Health and Home Affairs, in proposing the health of the new faculty, said that the thing that really mattered to the people of Queensland, who were putting up the money for this work, was that the men and women it produced would be of service to the State.

Dr. M. Graham Sutton, President of the Queensland Branch of the British Medical Association, said that the medical profession in Queensland whole-heartedly welcomed the establishment of the faculty. While Australia as a whole was rightly developing the national spirit, it was beginning to be recognized that Queensland presented problems peculiar to itself, which needed more determined and extensive study along certain lines. Of recent years medicine had taken on a much wider view, particularly in the preventive aspect. It was fast becoming a social science as well as a healing art. The medical profession would do everything possible in a cooperative way to further what had been one of its cherished aims, namely, the encouragement of the medical and social sciences and the fostering of medicine.

Professor H. J. Wilkinson, Dean of the Faculty, and Dr. E. S. Meyers, Lecturer in Anatomy, replied for the Faculty.

Professor E. J. Goddard, in proposing the toast of "The Benefactors of the University", stated that the medical school was greatly indebted to the friends of the late Sir William MacGregor for contributing to a fund which had enabled the university to equip the department of physiology. For this reason the department of physiology was called the Sir William MacGregor School of Physiology. The school of physiology was housed in a building lent to them on a very nominal rental by the Pharmaceutical Society of Queensland, and he therefore wished to express thanks to them for this material help in establishing this school.

The Freemasons of Queensland had given the old Masonic Temple in Alice Street, in which was housed the anatomy school. This building was a very valuable aid in the establishment of the medical school. Professor Goddard mentioned several other smaller bequests which had been made, and expressed the hope that there would be many more benefactions from private individuals in this State.

Replying to the toast to the benefactors of the university, Mr. E. A. Jones, the Deputy Grand Master, United Grand Lodge of Ancient Free and Accepted Masons of Queensland, said that individually and collectively freemasons of Queensland recognized the great necessity for high education in the State, and they rejoiced with the university on this historical occasion of the inauguration of the Faculty of Medicine.

Historical Notes on the Establishment of the Queensland Medical School.[1]

So long ago as 1913, Dr. E. Sandford Jackson began to agitate for the establishment of a medical school in Queensland, but at this stage popular opinion had not been adequately educated towards this objective. The outbreak of the War in 1914 further delayed any practical expression of this ideal.

In the year 1922, owing to the initiative of Mr. W. R. Parker, Dr. A. R. Walker and other dentists responsible for the training of students at the Brisbane Dental

[1] Kindly supplied by Professor H. J. Wilkinson.

Hospital and the Queensland College of Dentistry, "Westbourne", George Street, Brisbane, arrangements were made for anatomical demonstrations to be given to certain of the students, who in those days, after serving as apprentices for two years, received two years' training at the Dental Hospital.

At the request of the above-mentioned gentlemen, Dr. E. S. Meyers accepted a position as honorary demonstrator in anatomy, undertaking to dissect for the instruction of students those parts of the body of particular interest to dental students.

Early in 1924, on the recommendation of Dr. Meyers, the committee of the Brisbane Hospital Clinical Society carried a resolution to the effect that the British Medical Association should attempt to have established in Brisbane a department of normal and morbid anatomy under the ægis of the university.

The resolution forwarded by the Brisbane Hospital Clinical Society was considered at a special meeting of the Queensland Branch of the British Medical Association and was carried unanimously. A subcommittee consisting of doctors and dentists was appointed under the chairmanship of Dr. Sandford Jackson, and included such well-known medical men in Brisbane as Dr. W. N. Robertson and Dr. Lockhart Gibson. The committee owed much to the zeal and breadth of knowledge of Dr. Jackson, whose prestige stood them in good stead in these early days. During 1924 and 1925 this committee held very many meetings, considering ways and means of establishing the proposed school of anatomy.

In 1925, as the result of the work of the subcommittee, the then Home Secretary, Mr. J. Stopford, M.L.A., called a conference of delegates representing the various pathological and anatomical interests in Brisbane. These represented the State and Commonwealth Health Departments, the Brisbane and South Coast Hospitals Board, the medical and dental professions, and the university. It was decided to make two recommendations, one for the establishment of an anatomical department under the ægis of the university, and the other for a pathological department in connexion with the Brisbane and South Coast Hospitals Board.

In the meantime excellent work had been done by Dr. J. V. Duhig, a member of the committee, who impressed upon the authorities the necessity for passing an Act of Parliament legalising and regulating the practice of anatomy. Dr. Duhig's efforts were crowned with success, and the Government in 1925 passed the Act under which we are at present working.

Towards the end of 1925 the committee pointed out the extreme urgency of the needs of the dental students in regard to anatomical training, and decided to prosecute their work with further vigour in 1926. Towards this end, early in 1926, Dr. Jackson and Dr. Meyers attended the first meeting convened by the university, when special consideration was given to the questions of building costs, maintenance *et cetera*, for the institution of a school of anatomy.

Later in 1926 the Dental Hospital was taken over by the Brisbane and South Coast Hospitals Board and this marked what was seen later on to be a factor of great importance in the establishment of the school of anatomy. Also at this time Professor E. J. Goddard was appointed the university representative on the various committees, and his energy and enthusiasm greatly assisted the committee.

The laconic statement in the annual report of the Queensland Branch of the British Medical Association for 1927 will serve as a reminder of the happy results of these activities. The report is as follows: "In connexion with the teaching of dental students at the Brisbane Dental Hospital, a School of Anatomy has been established." It must be emphasized that this result could not have been achieved without the assistance of the Brisbane and South Coast Hospitals Board, whose cooperation made possible the establishment of the school.

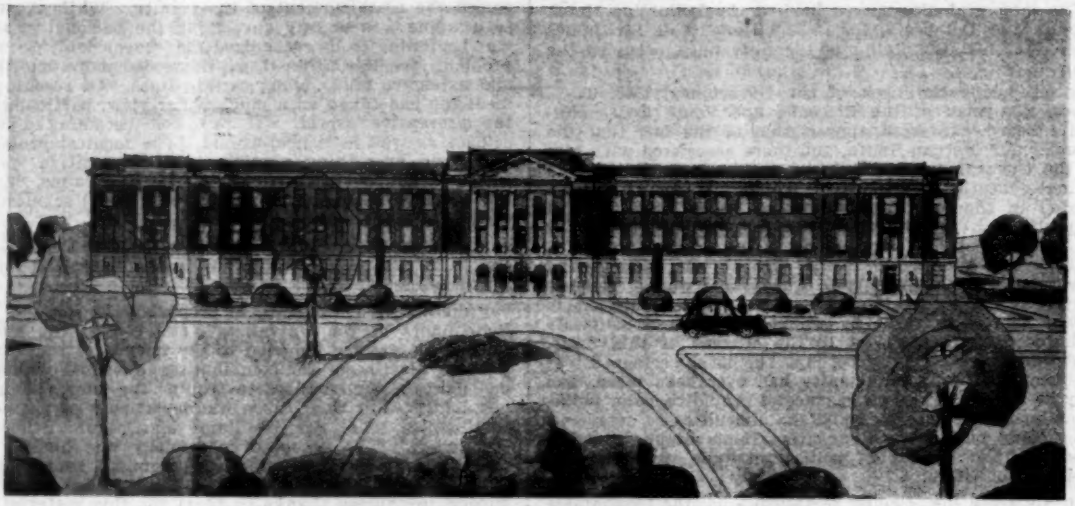


FIGURE 1.
Showing proposed new building for medical school, Brisbane.

The first school was established in William Street in an old disused bedding factory which was converted into a very serviceable school of anatomy. Thanks to the funds provided by the Brisbane and South Coast Hospitals Board, a technician was immediately appointed in the person of Mr. E. Bagnall, who was trained under the famous Mr. Louis Schaeffer, of the Sydney University medical school. "Ernie", the Queensland counterpart of "Louis", continues to give excellent service.

Under the *Anatomy Act* of 1925, the University of Queensland became responsible for the conduct of the school, and Dr. E. S. Meyers became the first licensed teacher of anatomy in Queensland, and was appointed lecturer in anatomy by the Joint Board of Dental Studies, the new body controlling dental education. Associated with Dr. Meyers for a number of years was Dr. Arthur Murphy, and from the start steps were taken towards the formation of an anatomical museum.

Besides the dental students, many medical practitioners took advantage of the facilities offered by the school. Also many distinguished visitors, including Sir John Goodwin, the then Governor, Professor Buckmaster and Professor Wright, Sir Colin MacKenzie, and many distinguished

surgeons and physicians from Sydney and Melbourne gave sympathetic advice and encouragement to those responsible for the school.

As time went on it became obvious that the old building was falling rapidly into disrepair and that unless something was done the building would be likely to collapse.

It was due largely to the work of Professor Goddard that the valuable gift of the building which at present is temporarily occupied by the anatomy school was made to the university by the freemasons of Queensland.

In 1934 the activities of the anatomy school were transferred to the old Masonic building in Alice Street. Although this building had not been in use for some time and was somewhat in a state of disrepair, it was a marked improvement on the previous quarters.

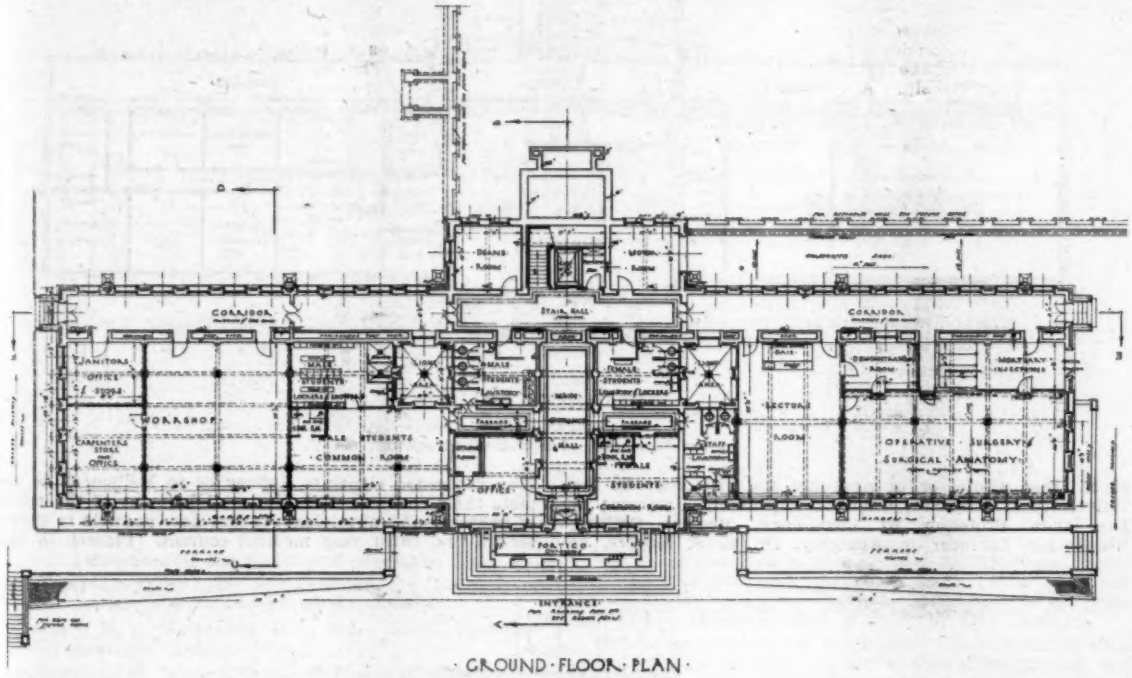


FIGURE II.
Ground floor plan of new medical school.

In 1935, again largely on the initiative of Professor Goddard, steps were taken which eventually led to the establishment of the Faculty of Dentistry within the University of Queensland. Once again the Brisbane and South Coast Hospitals Board and the Home Secretary, Mr. E. M. Hanlon, M.L.A., provided certain funds which made possible the establishment of this faculty. During the same year the Honourable W. Forgan Smith, LL.D., Premier of Queensland, now decided to test public and professional opinion by the appointment of a select committee to report on the practicability or otherwise of establishing faculties of medicine and veterinary science within the University of Queensland.

The committee appointed consisted of Dr. W. N. Robertson (Chairman), Vice-Chancellor of the University of Queensland and President of the Queensland Branch of the British Medical Association, Sir Raphael Cilento, Director-General of Health and Medical Services, and Dr. E. J. Goddard, Professor of Biology in the University of Queensland (as representatives of the University of Queensland); Dr. T. A. Price and Dr. L. J. Jarvis Nye (as representatives of the medical profession); and Mr. T. L. Jones, Chairman of the Brisbane and South Coast Hospitals Board, and Dr. A. D. Pye, Medical Superintendent, Brisbane Hospital (as representatives of the Brisbane and South Coast Hospitals Board). Professor J. J. Stable acted as secretary throughout.

At the first meeting of the committee thus constituted, Dr. L. J. Jarvis Nye stated that he would be leaving immediately for England and thus would be unable to attend any further meetings. Subsequently, on the recommendation of the Queensland Branch of the British Medical Association, a formal invitation to fill the vacancy thus created was extended by the Government to Dr. E. S. Meyers and accepted by him.

The committee met first on April 11, 1935, and subsequently on April 24, May 14, June 6, 1935, and on June 10, 1935, they furnished to the Honourable the Premier (W. Forgan Smith, Esq.) a report, in which they stated the need for a faculty of medicine within the University of Queensland. With regard to the scope of such a faculty, they stated that it should include particularly tropical medicine and public health as parts of routine medical education, and should be based upon the recognition of the essential nature of the practical and clinical side of the subject.

In the meantime the Council of the Pharmacy College and the Pharmacy Board of Queensland manifested a very definite desire to assist the university towards the establishment of a faculty of medicine, and in that connexion made available to the university the College of Pharmacy. Thus the university was placed in a position of incurring no capital outlay on buildings to make available the Masonic Hall for purposes of anatomy and the Pharmacy College building for purposes of physiology. Both these buildings offered definite opportunities for adaptation to the temporary needs of these two subjects.

The fate of the medical faculty, however, was in doubt until the following November. On the ninteenth of that month the Honourable the Premier received a deputation of the members of the committee and announced, after discussing in full various aspects of the report, that he would refer the matter to Cabinet and would personally support it heartily. The same day approval of the scheme was announced in the local Press, and within a few days

applications were called for the various posts immediately necessary.

In March, 1936, the following appointments were made: Chair of Anatomy, Professor H. J. Wilkinson, B.A., M.D., Ch.M., then Professor of Anatomy and Histology in the University of Adelaide; Chair of Physiology, Professor D. Lee, then Professor of Physiology, Medical College, Singapore; Lecturer in Anatomy, Dr. E. S. Meyers, of Brisbane; Lecturer in Physiology, Dr. Booth, of Belfast. Professor Wilkinson took up duties early in April, and Professor Lee in May. The first meeting of the newly constituted Faculty of Medicine was held on Wednesday, April 15, 1936, at which Professor Wilkinson was elected the first Dean of the Faculty of Medicine.

The University of Queensland had for several years provided a course for the first year medical students, who then proceeded either to Sydney or to Melbourne to complete their course. With the establishment of the schools of anatomy and physiology, it was now possible to provide second and third year medical courses. Classes in these subjects were started on the first day of the first term of 1936. At present, steps are being taken to establish the pathological and clinical departments. Meanwhile, the plans of a new building to house these departments have

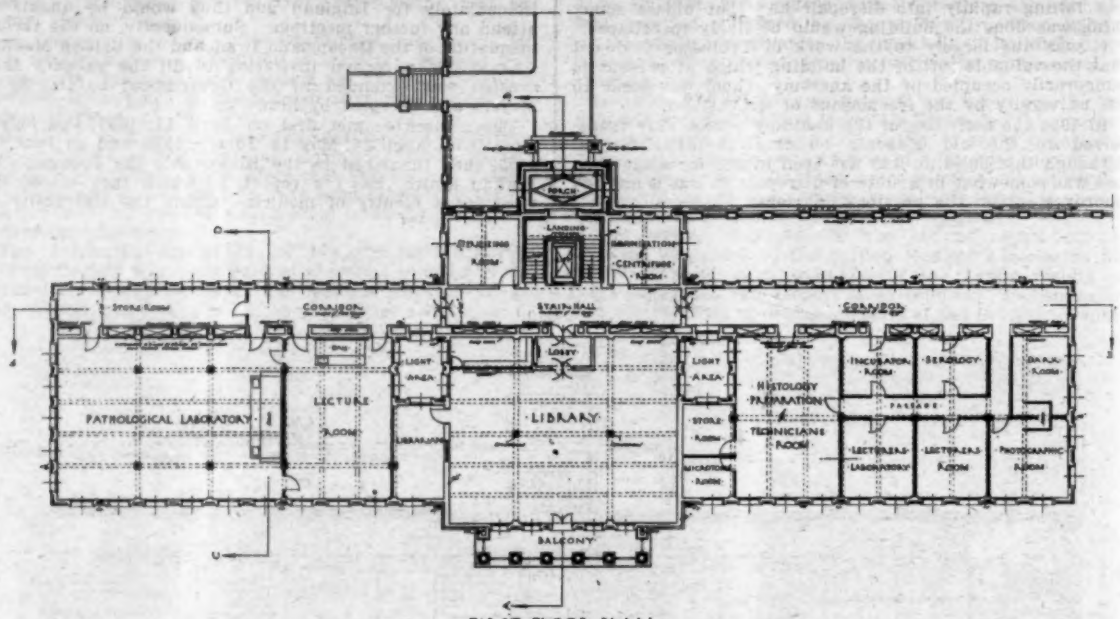


Figure III.
First floor plan of new medical school.

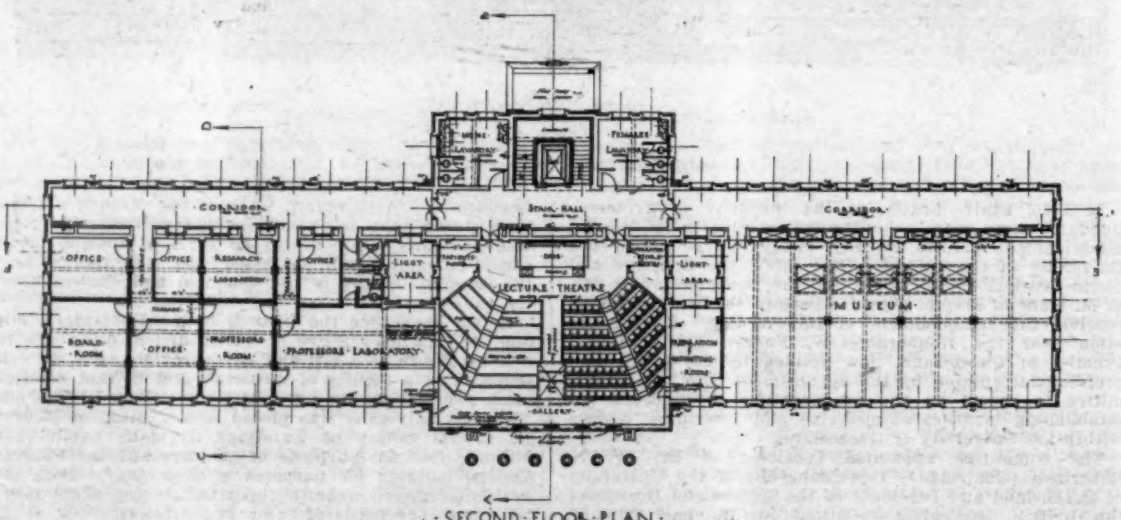


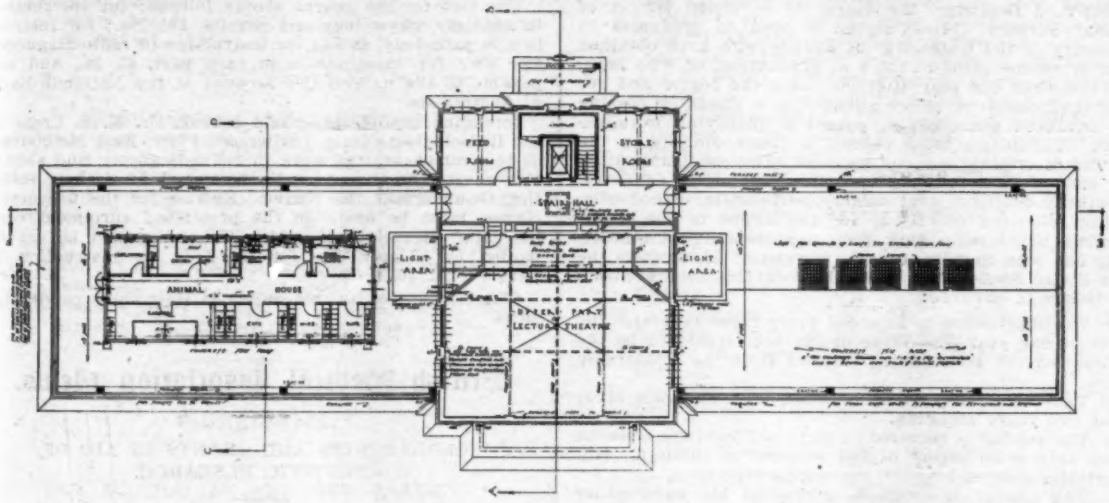
Figure IV.
Second floor section.

been prepared and a start is to be made on the erection of this building almost immediately, so that it will be ready for occupation at the end of 1937.

When the building is completed and equipped and the necessary appointments are made, the whole school will be established. It is hoped that the new appointments will include professors of pathology and of obstetrics as well as lecturers in bacteriology and in gynæcology and the various necessary lecturers in the departments of medicine, surgery, public health and preventive medicine, tropical medicine *et cetera*. The first students will graduate in December, 1940.

The complete design includes, besides the central portion, two wings which will be built later on to provide for additional departments. The central part, which is to be erected immediately, will cost approximately £50,000. Architecturally this school will be a notable addition to the hospital buildings at Bowen Bridge, and will be a three-story structure of brick and cement in the Renaissance style.

Every possible means of providing comfort for the students and of adding to the efficiency of training would be incorporated in the building.



PLAN SHOWING FLAT ROOF & UPPER PART OF THEATRE &c.

FIGURE V.
Roof of new school.

Members of the Faculty of Medicine.

The following are the members of the Faculty of Medicine within the University of Queensland:

Professor H. J. Wilkinson, B.A., M.D., Ch.M., Professor of Anatomy (Dean).

Professor L. S. Bagster, D.Sc., Professor of Chemistry.

Sir Raphael Cilento, M.D., Director-General of Health and Medical Services.

Professor E. J. Goddard, B.A., D.Sc., Professor of Biology.

Professor F. E. Helmore, D.D.Sc., Professor of Dentistry.

H. J. G. Hines, Esq., B.Sc., Lecturer in Biochemistry.

T. L. Jones, Esq., Chairman, Brisbane and South Coast Hospitals Board.

Mr. E. S. Meyers, M.B., F.R.A.C.S., Lecturer in Anatomy.

Professor T. Parnell, M.A., Professor of Physics.

Mr. A. D. D. Pye, M.B., Ch.M., F.R.A.C.S., Medical Superintendent of the Brisbane Hospital.

Mr. W. N. Robertson, C.M.G., C.B.E., M.B., C.M., F.R.A.C.S., F.A.C.S., Vice-Chancellor of the University of Queensland.

Eustace Russell, Esq., M.D., M.R.C.P., Chairman of the Advisory Board of the Honorary Staff of the Brisbane Hospital.

Professor D. H. K. Lee, M.Sc., M.B., B.S., D.T.M., Professor of Physiology.

F. J. Booth, Esq., M.D., B.A.O., Ch.B., Lecturer in Physiology.

Notes on the Plans of the New Medical School.

The school is being provided by the Queensland Government and is to be built near the General Hospital.

The main entrance is gained from a portico and lobby, and the hall will have parquetry floors. The office and strong rooms open from the hall, and access to the male and female common rooms is given by side passages.

On the eastern end of the ground floor accommodation is provided for operative surgery and surgical anatomy and a mortuary. On the western end will be the workshop and other offices. The first floor contains the library, the main pathological laboratory, lecture rooms, and rooms for histological preparation, serology, and photography, as well as accommodation for the lecturer.

The second floor will accommodate the main lecture theatre, which is capable of seating 175 persons. Associated with this is a small room to serve as a waiting room for patients, an apparatus room, and a fireproof projection box for a cinema. Direct access is given to the museum to facilitate the moving of exhibits from there to the lecture theatre, and there will also be direct access to the professor's suite. This floor also provides offices for lecturers in other departments as well as a Faculty committee room.

The flat roof will have parapets sufficiently high to conceal the houses for the animals which will be required for experimental purposes. A lift will be provided to all floors and the roof.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on November 2, 1936.

The following degree was conferred: Doctor of Medicine (M.D.), Lorimer Fenton Dods.

The Senate was informed that the Carnegie Corporation of New York had allocated to the University a college music set valued at 2,500 dollars. The set includes: an electric phonograph of special design for use in small rooms and auditoriums; 900 records, chosen as an anthology of recorded music, ancient and modern; an oak cabinet in which to keep the records; bound copies of full scores, when published in miniature, also bound vocal scores of operas and oratorios; a selection of 100 books on musical subjects, historical and biographical, and works of reference.

On the recommendation of the Professorial Board, it was decided to establish the degree of Master within the Faculty of Dentistry, the degree to be styled Master of Dental Surgery. This degree is open to graduates in dentistry of the University of Sydney who have obtained first or second class honours at graduation, or who have, not less than one year after obtaining the degree and not less than one year before submitting a thesis or passing an advanced examination, passed a qualifying examination. Candidates must submit a thesis embodying the results of original work or pass an advanced examination in one of the following groups: operative dentistry, prosthetic dentistry, oral surgery, periodontia, orthodontia.

The following conditions for the award of the Sister Sanders Scholarship have been approved. This scholarship has been founded under a bequest of £2,000 from the late Sister Sanders for research work for the prevention of disease in children:

1. The scholarship is awarded every three years for the term of one year, the value of the scholarship to be the amount of the accumulated interest from the scholarship fund.
2. The scholarship to be awarded to a graduate of at least two years' standing.
3. The scholar is required to carry out full-time research work into some aspect of the diseases of children, with particular reference to the preventive aspect.
4. The scholar is required to conduct his work either at the Royal Alexandra Hospital for Children or another hospital specially approved by the Faculty of Medicine, or in one of the departments of the university.

The Peter Bancroft Prize for 1936 has been awarded to Dr. A. A. Abbie, Lecturer in Anatomy. This prize is awarded for the best piece of research work in any subject of the medical curriculum published or completed in the previous year by a graduate or undergraduate in the Faculty of Medicine. The title of the paper submitted by Dr. Abbie for this prize is "Cortical Laminations in Echidna Aculeata".

The Senate has conveyed an expression of grateful thanks to Mr. Robert W. Gillespie, of Wahroonga, and to Dr. S. Angus, of Saint Andrew's College, for donating to the University three boxes of Greek Ostraca or inscribed potsherds from Egypt.

This collection is of great intrinsic value as being one of choice specimens, and also of considerable historical and sentimental value. It was a collection formed by the great scholar Deissmann, of the University of Berlin, and formed part of the material upon which he based his investigations into the nature of the Greek of the New Testament.

This collection and the Hermes donated by the sons of the late Sir Charles Nicholson, are the two most notable donations ever made to the Nicholson Museum.

UNIVERSITY OF MELBOURNE.

Diploma of Diagnostic Radiology.

It is proposed to conduct courses of instruction in the subjects prescribed for the Diploma of Diagnostic Radiology in 1937. Candidates for the diploma must be holders of a registrable medical qualification of at least two years' standing, and must satisfy the Professor of Natural Philosophy as to their fitness to undertake the course.

The course includes:

1. Nine months' study and practical work in radio-diagnosis in the special departments of recognized hospitals and institutions.
2. Special courses of instruction in anatomy, physiology and physics at the university during the second term.
3. An examination (Part I) in the subjects prescribed under (2) at the beginning of the third term.
4. A course of instruction in pathology at the university during the third term.
5. An examination (Part II) in radio-diagnosis and pathology at the beginning of the first term, 1938.

The fees for the course are as follows: for instruction in anatomy, physiology and physics, £31 10s.; for instruction in pathology, £8 8s.; for instruction in radio-diagnosis, £38 17s.; for examination in each part, £5 5s., and are payable to the university's account at the National Bank of Australasia.

Intending candidates should consult Dr. K. S. Cross at the Radiological Clinic, Parliament Place, East Melbourne, as to commencing the work in radio-diagnosis, and should also advise the Registrar, University, N.3, of their intention to undertake the course. Entries for the university classes must be made on the prescribed enrolment card not later than Saturday, May 22, and should be accompanied by a bank slip for the fees for instruction in Part I (£31 10s.).

Classes will not be held unless at least three candidates enrol.

British Medical Association News.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

Scholarships.

The Council of the British Medical Association is prepared to receive applications for research scholarships as follows:

An Ernest Hart Memorial Scholarship, of the value of £200 *per annum*.

A Walter Dixon Scholarship, of the value of £200 *per annum*.

Three Research Scholarships, each of the value of £150 *per annum*.

These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including state medicine) relating to the causation, prevention or treatment of disease.

Each scholarship is tenable for one year, commencing on October 1, 1937. A scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research, but may hold a junior appointment at a university, medical school or hospital, provided the duties of such appointment do not interfere with his or her work as a scholar.

Grants.

The Council of the British Medical Association is also prepared to receive applications for grants for the assistance of research into the causation, treatment or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

Conditions of Award: Applications.

A copy of the regulations relative to the award of the scholarships and grants for 1937, and of the prescribed application form can be obtained on application to the

General Secretary of the Federal Council of the British Medical Association in Australia, British Medical Association House, 135, Macquarie Street, Sydney. The completed application form is required to be submitted to the Secretary of the Federal Council not later than March 1, 1937.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated.

G. C. ANDERSON,
Medical Secretary.

British Medical Association House,
Tavistock Square,
London, W.C.1,
September, 1936.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Dowe, John Britten, M.B., B.S., 1936 (Univ. Sydney), Royal North Shore Hospital of Sydney, St. Leonards.

Goodman, Henry Earle, M.B., B.S., 1933 (Univ. Sydney), 52, Eastern Avenue, Kingsford.

Congresses.

THE AUSTRALIAN AND NEW ZEALAND ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE following is the programme for the Section of Medical Science and National Health of the twenty-third meeting of the Australian and New Zealand Association for the Advancement of Science, to be held at Auckland from January 12 to 19, 1937:

Wednesday, January 13, 1937.

9 a.m.—Presidential address of Section N (Physiology), by Sir Cedric Hicks (Adelaide): "Non-Specific Therapeutic Response in the Light of Recent Investigations of Hormonal and Vegetative Nervous Regulation".

11 a.m.—Presidential address, Section I (Medical Science and National Health), by Dr. A. R. Southwood (Adelaide): "Heart Disease from the Public Health Standpoint".

2.15 p.m.—Professor D. W. Carmalt Jones (Dunedin): "Major Advances in Medicine in the Twentieth Century".

3.30 p.m.—Presidential address, Section O (Pharmaceutical Science), by Dr. B. L. Stanton (Melbourne): "Endocrine Products in Modern Therapy".

Thursday, January 14, 1937.

9.30 a.m.—Joint meeting with Section N (Physiology). Paper by Dr. F. G. Morgan (Director of the Commonwealth Serum Laboratories, Victoria): "Active Immunization of Man and Domestic Animals against Infectious Disease".

11 a.m.—Joint meeting with Section N (Physiology). Paper by Dr. F. M. Burnett (Walter and Eliza Hall Institute, Melbourne): "Immunological Studies of the Influenza Virus".

2 p.m.—Joint discussion with Sections N and O (Physiology and Pharmaceutical Science). Opening paper by Professor J. Malcolm (Dunedin): "Remarks on the State of our Knowledge Regarding Vitamins".

3.15 p.m.—Joint meeting with Section N (Physiology). Paper by Dr. J. Hardie Neil (Auckland): "Anatomy of the Bronchial Tree".

Friday, January 15, 1937.

9.30 a.m.—Paper by Sir Robert Muir (Glasgow). (Arrangements uncertain.)

11 a.m.—Papers: Dr. Kidson (Wellington, "Consideration of the Characteristics of the New Zealand Climate"; Dr. Ada Patterson (Wellington), "New Zealand Children (Pakeha and Maori)".

2.30 p.m.—Joint discussion with Section K (Agriculture and Forestry). Opening paper by Dr. E. B. Gunson (Auckland): "The Need for a National Food Policy with Coordination of Agricultural and Public Health Interests". Paper by Professor Harvey Sutton (Sydney).

4 p.m.—Paper by Dr. A. H. Baldwin (Sydney).

Monday, January 18, 1937.

9.30 a.m.—Discussion on national health insurance. Opening papers: Sir H. Simpson Newland (Adelaide), Dr. J. P. S. Jamieson (Nelson, New Zealand).

2.30 p.m.—Papers: Dr. E. Graeme Robertson (Melbourne), "Intracranial Aneurysms"; Dr. Thornton Taylor (Sydney), "The Family Doctor and Dental Disease".

3.15 p.m.—Mr. Selwyn B. Morris (Auckland): "The Social Aspect of Injury".

Tuesday, January 19, 1937.

9 a.m.—Joint discussion with Section L (Education, Psychology and Philosophy). Sir Louis Barnett: "Hydatid Disease: Research and Prevention".

10.15 a.m.—Mr. Alexander Gillies (Wellington): "Present Position in the Treatment of Rheumatism".

Correspondence.

APPENDICECTOMY.

SIR: I presume that when one's book has been criticized (*sic!*) in your columns that one has the right of reply. First of all the heading "Appendicectomy" should not have been used by the critic, as the book embraces everything essential about the appendix, not merely its removal. Then the critic objects to my strong advocacy of Battle's incision on the plea that the abdominal wall is not nearly so strong as when the gridiron incision has been used. Might I call the critic's attention to the fact that the late Lord Moynihan wrote: "I greatly prefer the incision that displaces the rectus muscle to the inner side." The late Lord Moynihan was the President of the Royal College of Surgeons and was acknowledged to be one of the greatest abdominal surgeons that ever lived. I presume his word will be accepted before my critic's. Howard Kelly, the most experienced gynæcologist living, says in regard to Battle's incision: "This method has the same advantage in that of McBurney, namely, the avoidance of hernia as a post-operative sequela."

As regards the biniodide method of preparing catgut, I can only give my experience extending over years, but as there has been objections urged I advised country surgeons to buy "sterile interior catgut" and to use the iodium solution that Messrs. Elliott Bros. supply because this process is quicker, but I can't say that the end results are better. The critic evidently belongs to that class of surgeons who when they get a bad result turn round and blame the catgut.

As regard the use of gauze after getting rid of as much pus as possible, my critic says: "but gauze used in the way the author describes will never drain pus"; of course it won't drain pus; all that the gauze is put in for is to make a firm surrounding wall so that the area is walled off more effectually.

I am sorry that it has been my misfortune to be criticized by one who does not appear to be up to his job; if he will take the trouble to read some of the criticisms that are appearing in the English medical papers he will find that the book is commended for being sound.

Yours, etc.,
W. J. STEWART MCKAY.

Lismore,
New South Wales,
October 12, 1936.

A DISCLAIMER.

SIR: We have been concerned with a report that has spread among medical practitioners to the effect that some members of the honorary medical staff of The Women's Hospital, Sydney, have given up the use of rubber gloves in the conduct of labours at the above hospital.

We have taken it upon ourselves to write to you in the matter, as we are the two named in the reports that have reached us.

It has been stated that we rely so absolutely upon the bactericidal effect of a proprietary antiseptic that we consider gloves unnecessary. We regard such a statement concerning the methods used in a teaching hospital as dangerous, and would be glad if you would allow us to use your columns as the best method of overtaking and contradicting this report before it can lead to dangerous methods being adopted.

We regard the use of rubber gloves as essential for the safe conduct of labour in both hospital and private practice in the light of present-day knowledge, and consider that reliance on any chemical germicide alone is dangerous.

Yours, etc.,
H. C. E. DONOVAN.
T. DIXON HUGHES.

Sydney,
November 5, 1936.

OXYURIASIS: A POSSIBLE MAIN SOURCE OF INFESTATION.

SIR: All general practitioners are required frequently to treat thread worms. My own attempts at preventing reinfestation in certain cases have been very disappointing. The explanation probably lies in the fact that the source of the supply of the worm is unknown. Nelson's Medicine states: "The *Oxyuris* (*Enterobius*) *Vermicularis*, or Pin Worm, has not been known definitely to exist in animals other than man."

On account of the comparative unimportance of the disease, this statement passes without much question. It also says that country people suffer more from these worms than do city dwellers. It was a chance remark of a rabbiter who gets regular "repeats" of worm powders in his lodge book that made me curious. He said that "the white worms in the rabbit's paunch" were the same as his own. He was quite certain he had "caught them" from rabbits. It then struck me that the people who took worm medicines regularly were professional rabbiters and their families.

I interviewed six of these men. They were all satisfied that the white worm was the same as their own. One man told me that if rabbiters were gathered together for a smoke-oh, "they all gave the sign", because, as he explained, "all rabbiters have itchy bottoms". Outside this select fraternity there were also cases that appeared to contradict the assumption; for example, two carefully nurtured little girls whom I knew to be obstinately infested. I spoke to their respective mothers and learned in each case that the child had pet rabbits which she played with.

I sent specimens of worms to the Veterinary Research Institute at the Melbourne University—thread worms taken from two patients and an equal number taken from two rabbits' intestines, twelve worms in all. They were all reported on as being *Oxyuris vermicularis*.

There has been an improvement in results of treatment in my cases. Two rabbiters who were intelligent and anxious to cooperate in this treatment have cleared themselves completely. Each takes water bag, dish, soap, brush, towel and methylated spirits about with him in his spring-cart. They "scrub up" before eating.

The two children mentioned cleared up after getting rid of their pets.

It would thus appear:

1. That the "white worm" of the rabbit's intestine is identical with *Oxyuris vermicularis* of the human.

2. That, in view of this, hygienic precautions can lessen the likelihood of infestation.

Yours, etc.,
S. E. HUMPHREYS.

Cefn Gwyn,
Beaufort,
Victoria,
November 7, 1936.

PINK DISEASE.

SIR: I would like to thank Dr. Ellen Kent Hughes for her letter in the issue of the journal of October 31, but I want to dissociate myself from acquiescence in the scheme to which she refers, in which babies of six months of age are given lightly cooked meat, and at eight months "sit up to a three-course meal". Such a doctrine is liable to be misinterpreted as medical support for the habit some people adopt of giving the baby a taste of most of the articles at the adults' table.

As reported in the issue of the journal of October 10, at page 514, I referred specifically to the introduction of raw egg, raw potato juice and raw liver juice into the diet of babies suffering from pink disease, and asked my colleagues to test the matter clinically and to report their findings. I feel that this clinical evidence would go a long way to prove or to disprove the view that pink disease is caused by a vitamin contained in these articles which is not one of the known vitamins. Of course, it would be splendid if the matter could be made the subject of accurate scientific investigation in a properly equipped laboratory, but I have not been able to have this done.

In order to standardize reports, I would suggest that those interested in the matter should collate evidence at weekly intervals or other convenient periods under the following headings: (1) drowsiness and apathy; (2) loss of appetite; (3) photophobia; (4) skin irritability; (5) emotional disturbance; (6) vasomotor disturbance (degree of pinkness, swelling and coldness of hands and feet and tendency to perspire); (7) muscular atony; (8) weight record (naked); (9) skin rash; (10) nausea and abdominal pain or colic; (11) bowel upset (thread worm or pin worm should be looked for).

Brittleness and dryness of the hair, creaking of the joints and the occurrence of patches of erythema urticaria are other points of special interest in this disease. The date of onset and the time and order of the appearance of the main symptoms should be fixed as accurately as possible.

Australian clinicians have already contributed largely to the present state of knowledge of this disease, and I think that if we can do something more to elucidate the mystery which surrounds the ætiology by the opening of a bureau to collect information along the lines suggested, this should be done without further delay. In the meantime I will be pleased to receive any reports, and I would suggest that the columns of the journal should also be made available for the purpose.

In order to simplify the evidence the subject of this disease should be placed on a normal diet with full vitamins and general hygienic treatment when first seen by a doctor, and the parents should be advised to keep the baby quiet and cool. Methylated spirits and powder should be used on the skin, and a smooth silk garment should be worn next to the skin. Usually a sedative, such as elixir phenobarbital, will be needed to soothe the baby sufficiently to make it possible for the parents to feed the baby and keep him quiet. The raw egg, raw potato juice and raw liver juice may be introduced into the diet subsequently and the date of introduction noted.

Yours, etc.,

14, Collins Street, Melbourne, November 10, 1936. H. BOYD GRAHAM.

"ENSOL" IN THE TREATMENT OF CANCER.

SIR: Having recently been associated with Dr. Gye at the Imperial Cancer Research Institute (London), Continental and American clinics for research and the treatment of malignant disease, I beg to offer the opinion that it is premature to make any claims whatsoever on behalf of the preparation known as "Ensol". Further, the consensus of opinion amongst research workers and clinicians was that there is no known "cure-all" for all types of malignancy.

The letter of Dr. E. H. Molesworth in your issue of the seventh instant aptly sums up what should be required of this preparation. Press publicity in attracting attention to the claims of "Ensol" or any such preparation, I am confident, will only belittle our profession.

Yours, etc.,

Waverley, New South Wales, November 10, 1936. P. L. K. ADDISON.

Obituary.

JOHN MACQUARIE ALCORN.

WE are indebted to Dr. Merrick O'Reilly, of Parramatta, for the following appreciation of the late Dr. John Macquarie Alcorn.

About to administer a dose of anti-tetanus serum to a child, John Macquarie Alcorn collapsed and died in his surgery on September 25. This dramatic tragedy was a severe shock to his wife, daughter, and many friends, but we can safely assume that he himself would have wished to go in the midst of his work.

Born at West Maitland, New South Wales, in 1881, he came of a medical family, and obtained his degree at Dublin University. Returning to New South Wales, he practised at Ulmarra and Forbes, and then served with the Australian forces in France, being promoted to the rank of major. After the War Dr. Alcorn bought a practice at Moss Vale, where he remained.

The news of his death spread almost instantly through the town, and the practical suspension of business and entertainment for the rest of the day was a tribute to the respect and affection in which he was held by the people of the town and district. Interested in all public movements, his main work outside his profession was done in connexion with the Moss Vale body of returned soldiers. Elected President on four occasions, he exerted at all times a guiding influence in the affairs of the branch. His name will be recorded as the prime mover in founding the Southern Highlands Publicity Association. He won the confidence of a large circle of patients, and always placed their welfare above his own convenience or interests. In private life many friendships were readily formed, attractive characteristics being his frankness, dislike of shams and conventions, fairness, generosity and courage. The last named was often exhibited when he maintained his work and cheerfulness in face of adversities, not the least of which was a troublesome asthma, which made physical exertion difficult.

Widespread sympathy is felt for Mrs. Alcorn and his daughter, and the passing of such as he is a distinct loss to the profession and the public.

Corrigendum.

"CELLOPHANE."

IN a current comment entitled "Ichthyosis", on page 126 of the issue of July 25, 1936, reference is made to ". . . a male infant whose skin at birth resembled cellophane". It has been pointed out that "Cellophane" is not a generic term, but the registered trade mark of the firm British Cellophane Limited, denoting only the brand of transparent cellulose sheeting supplied by this company. Apologies are offered to Messrs. British Cellophane Limited for this oversight.

A WARNING.

THE following warning is published at the request of the Medical Secretary of the Victorian Branch of the British Medical Association.

Medical practitioners are warned against giving money to a man posing as the relative of a former patient. He seeks assistance to travel to another State, as he has been promised employment there, and gives a fictitious reference to an alleged guarantor.

Books Received.

LEAGUE OF NATIONS PUBLICATIONS: THE PROBLEM OF NUTRITION, Volume IV: Statistics of Food Production, Consumption and Prices; 1936. Geneva: The League of Nations Publications Department; Sydney: H. A. Goddard, Limited. Demy 4to, pp. 109. Price: 3s. 9d. net.

RECENT ADVANCES IN ENDOCRINOLOGY, by A. T. Cameron, M.A., D.Sc., F.I.C., F.R.S.C.; Third Edition; 1936. London: J. and A. Churchill Limited. Demy 8vo, pp. 467, with illustrations. Price: 15s. net.

THE MICROSCOPE, by S. H. Gage; Sixteenth Edition, revised and enlarged by the addition of a chapter on Micro-Incineration; 1936. New York: Comstock Publishing Company, Incorporated. Royal 8vo, pp. 625, with illustrations. Price: $4.00 net.

DISEASES OF THE TESTICLE, by H. Bailey, F.R.C.S.; 1936. London: H. K. Lewis and Company Limited. Demy 8vo, pp. 168, with 129 illustrations. Price: 12s. 6d. net.

MODERN TREATMENT OF DISEASES OF THE RESPIRATORY SYSTEM, by A. L. Punch, M.B., M.R.C.P., and F. A. Knott, M.D., M.R.C.P., D.P.H.; 1936. London: J. and A. Churchill Limited. Demy 8vo, pp. 303, with illustrations. Price: 15s. net.

DISEASES OF INFANCY AND CHILDHOOD, by W. Sheldon, M.D., F.R.C.P., with a foreword by G. F. Still, M.A., M.D., LL.D., F.R.C.P.; 1936. London: J. and A. Churchill Limited. Demy 8vo, pp. 748, with 137 illustrations. Price: 21s. net.

A MANUAL OF PHARMACOLOGY, by the late W. E. Dixon, M.A., M.D., B.S., B.Sc., D.P.H., F.R.S., revised by W. A. M. Smart, M.B., B.S., B.Sc., M.R.C.S., L.R.C.P.; Eighth Edition; 1936. London: Edward Arnold and Company. Demy 8vo, pp. 490, with illustrations. Price: 18s. net.

FOOD AND THE PRINCIPLES OF DIETETICS, by R. Hutchison, M.D., LL.D., F.R.C.P., and V. H. Mottram, M.A.; Eighth Edition; 1936. London: Edward Arnold and Company. Demy 8vo, pp. 661, with illustrations. Price: 21s. net.

THE TRUE NATURE OF VIRUSES, by W. M. Crofton, M.D.; 1936. London: John Bale, Sons and Danielsson Limited. Foolscap 4to, pp. 155, with illustrations. Price: 15s. net.

Diary for the Month.

Nov. 24.—New South Wales Branch, B.M.A.: Medical Politics Committee.
Nov. 25.—Victorian Branch, B.M.A.: Council.
Nov. 26.—South Australian Branch, B.M.A.: Branch.
Nov. 26.—New South Wales Branch, B.M.A.: Branch.
Nov. 27.—Queensland Branch, B.M.A.: Council.
Dec. 1.—Tasmanian Branch, B.M.A.: Council.
Dec. 1.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
Dec. 2.—Victorian Branch, B.M.A.: Annual Meeting.
Dec. 2.—Western Australian Branch, B.M.A.: Council.
Dec. 3.—South Australian Branch, B.M.A.: Council.
Dec. 7.—New South Wales Branch, B.M.A.: Organization and Science Committee.
Dec. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
Dec. 8.—Tasmanian Branch, B.M.A.: Branch.
Dec. 10.—New South Wales Branch, B.M.A.: Branch.
Dec. 10.—Victorian Branch, B.M.A.: Council.
Dec. 11.—Queensland Branch, B.M.A.: Annual Meeting.
Dec. 15.—New South Wales Branch, B.M.A.: Medical Politics Committee.
Dec. 15.—Tasmanian Branch, B.M.A.: Council.
Dec. 18.—Queensland Branch, B.M.A.: Council.

Medical Appointments.

Dr. C. R. O'Brien has been appointed Medical Officer, Office of the Director-General of Public Health of New South Wales.

* * *

Dr. H. V. D. Baret has been appointed Medical Superintendent, Office of the Director-General of Public Health of New South Wales.

* * *

The following appointments have been made at the Adelaide Hospital, Adelaide, South Australia: Dr. W. Gilfillan, Honorary Clinical Assistant to the Dermatological Section; Dr. J. S. Verco, Honorary Assistant Radiologist; and Dr. T. D. Kelly, Resident Medical Officer.

* * *

Dr. F. K. Mugford has been appointed Assistant Medical Officer in the Children's Welfare and Public Relief Department at Adelaide, South Australia.

* * *

Dr. R. D. Buntine has been appointed Certifying Medical Practitioner at Loch, Victoria, pursuant to the provisions of the *Workers' Compensation Act*, 1928, of Victoria.

* * *

Dr. R. B. R. Wooster has been appointed Medical Superintendent, Department of Mental Hospitals of New South Wales.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser", pages xviii, xix, xx.

ANTI-TUBERCULOSIS ASSOCIATION OF NEW SOUTH WALES: Honorary Medical Officer.
COMMONWEALTH OF AUSTRALIA: Medical Officer.
DEPARTMENT OF PUBLIC HEALTH, PERTH, WESTERN AUSTRALIA: Medical Officer.
DIRECTOR-GENERAL OF PUBLIC HEALTH, SYDNEY, NEW SOUTH WALES: Visiting Medical Officer.
GEELONG AND DISTRICT HOSPITAL, GEELONG, VICTORIA: Medical Officer.
HEATHERTON SANATORIUM, CHELTENHAM, VICTORIA: Assistant Medical Officer.
LAUNCESTON PUBLIC HOSPITAL, LAUNCESTON, TASMANIA: Resident Medical Officer.
LIVERPOOL STATE HOSPITAL AND HOME, LIVERPOOL, NEW SOUTH WALES: Honorary Assistant Anæsthetist.
MOUNT MULLIGAN DISTRICT HOSPITAL, MOUNT MULLIGAN, QUEENSLAND: Medical Officer.
MUKINBUDIN ROAD, HEALTH AND VERMIN BOARD, MUKINBUDIN, WESTERN AUSTRALIA: Medical Officer.
VICTORIAN EYE AND EAR HOSPITAL, MELBOURNE, VICTORIA: Resident Medical Officers.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCHES.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY Hospital are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Lodge appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 205, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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